

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.22**

Abbey Mills Pumping Station

Main Report

APFP Regulations 2009: Regulation **5(2)(q)**

Hard copy available in

Box **53** Folder **B**
January 2013

**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

This page is intentionally blank

Thames Tideway Tunnel

Transport Assessment

Section 25: Abbey Mills Pumping Station

List of contents

	Page number
25 Abbey Mills Pumping Station.....	1
25.1 Introduction.....	1
25.2 Proposed development.....	1
25.3 Assessment methodology.....	12
25.4 Baseline.....	15
25.5 Construction assessment	47
25.6 Operational assessment.....	54
25.7 Summary of site-specific Transport Assessment.....	56
References	58

List of plates

	Page number
Plate 25.2.1 Estimated construction lorry profile.....	6
Plate 25.4.1 Gay Road	17
Plate 25.4.2 Abbey Lane	18
Plate 25.4.3 High Street (A118) at its junction with Abbey Lane.....	19
Plate 25.4.4 Existing weekday traffic flow along Abbey Lane.....	40
Plate 25.4.5 Existing Saturday traffic flow along Abbey Lane.....	41
Plate 25.4.6 Existing Sunday traffic flow along Abbey Lane.....	42
Plate 25.4.7 Existing on-street parking availability and usage	44

List of tables

	Page number
Table 25.2.1 Construction traffic details	3
Table 25.2.2 Maximum estimated construction worker numbers.....	7
Table 25.2.3 Transport mode split.....	8

Table 25.2.4 Peak construction works movements	9
Table 25.4.1 Existing day time local bus services and frequency (number of buses per hour)	21
Table 25.4.2 Existing London Underground services and frequency (number of services per hour)	23
Table 25.4.3 Existing London Overground services and frequency (number of services per hour)	25
Table 25.4.4 Existing DLR services and frequency (number of services per hour) ..	27
Table 25.4.5 Existing national rail services and frequency (number of services per hour)	29
Table 25.4.6 Existing on-street car parking	31
Table 25.4.7 Off street parking charges	32
Table 25.4.8 Survey types and locations.....	33
Table 25.4.9 Existing pedestrian flows	35
Table 25.4.10 Existing cycle traffic	37
Table 25.4.11 Parking bay availability and usage.....	43
Table 25.4.12 Accident severity from 2006 to 2011.....	45
Table 25.5.1 Abbey Mills Pumping Station site design measures	54
Table 25.7.1 Abbey Mills Pumping Station Transport Assessment results.....	57

25 Abbey Mills Pumping Station

25.1 Introduction

- 25.1.1 This site specific Transport Assessment (*TA*) presents the findings of the assessment of the transport issues of the Thames Tideway Tunnel project at the Abbey Mills Pumping Station site located within the London Borough (LB) of Newham.
- 25.1.2 The assessment takes into consideration the changes as a result of all other Thames Tideway Tunnel sites to ensure that results indicate the significance of each individual site in combination with construction works being undertaken at other sites.
- 25.1.3 The *Transport Assessment* draws on a number of project-wide or application documents which include the Transport Strategy and the *Code of Construction Practice (CoCP)*ⁱ. Further detail on these documents which form the background to the *TA* can be found in Section 1 of the *TA*.
- 25.1.4 The *TA* structure is as follows:
- a. Section 25.2 includes a description of the proposed development, detailing construction phasing, vehicle and person trip generation and construction traffic routing and details of the operational phase.
 - b. Section 25.3 outlines the assessment methodology used for the *TA* for the construction and operational phases.
 - c. Section 25.4 details the baseline conditions on the transport network surrounding the site, including survey data analysis and accident analysis.
 - d. Section 25.5 provides the assessment of the construction phase of the project, including a comparison between the construction base case and the construction development case. This section also outlines sensitivity testing for the highway network.
 - e. Section 25.6 provides the assessment of the operational phase of the project.
 - f. Section 25.7 summarises the *TA* findings.

25.2 Proposed development

- 25.2.1 The Abbey Mills Pumping Station site is located within the LB of Newham. It comprises an area of greenfield land to the south of the Abbey Mills Pumping Station (within the boundary of the Pumping Station) which is currently being used for the construction of the Lee Tunnel. Figure 25.2.1, in the Abbey Mills Pumping Station Transport Assessment Figures,

ⁱ The *Code of Construction Practice (CoCP)* is provided in Vol 1 Appendix A of the *Environmental Statement*. It contains general requirements (Part A), and site specific requirements for this site (Part B).

indicates the Abbey Mills Pumping Station site location. The closest sites are King Edward Memorial Park 5.4km to the west and Beckton Sewage Treatment Works 6.9km to the east.

Construction

- 25.2.2 The site is within Thames Water land, and is bounded to the north by Thames Water operational infrastructure and buildings. To the west, the site is bounded by the Prescott Channel and allotments, and to the south east by the Channelsea River and Abbey Creek. To the east of the site beyond the Channelsea River is an area of disused land and the Channelsea Business Centre, located on Canning Road. There is road access to the site off Stratford High Street (A118) which forms part of the Transport for London Road Network (TLRN) via Abbey Lane.
- 25.2.3 Construction is anticipated to last for four years. Early works, such as utility connections and diversions may be undertaken in advance of the main works. There would be two phases of construction, phase 1 – covering site set-up and shaft construction and phase 2 - covering secondary lining works and construction of other structures. The highway layout during construction (areas 1 and 2) plans are provided in the Abbey Mills Pumping Station Transport Assessment Figures.
- 25.2.4 Stage 1 *Road Safety Audits* have been carried out on the illustrative highway layouts proposed for this site. The *Road Safety Audit* reports for this site are contained in Section 25 Appendix D.
- 25.2.5 During construction it is anticipated that the transport networks may be affected as a result of the additional construction traffic associated with the Abbey Mills Pumping Station site, the temporary suspension of car parking bays and changes to the car parking restrictions
- 25.2.6 As part of the project proposals, should the contractor elect to use barges for materials transport, a temporary bridge would be provided over the Prescott Channel to maintain pedestrian access to the footpath at the south-western side of the site. This would result in a slight change to the layout of the footpath. However, the footpath and corresponding accessibility for pedestrians would be maintained. No pedestrian route diversions would be required.
- 25.2.7 This *TA* assumes all construction materials to and from this site would be transported by road.
- 25.2.8 Suspension of approximately 17 parking bays would be required on Abbey Lane together with the extension of single yellow line restrictions and the inclusion of double yellow lines, to aid larger construction vehicles accessing the site and passing central islands on Abbey Lane. The proposed parking suspension and alterations to the single and double yellow line restrictions (along Abbey Lane) include:
- a. provision of approximately 17m of double yellow lines, southeast of Godfrey Street
 - b. suspension of one bay and the provision of single yellow line restriction, southeast of Godfrey Street

- c. extension of single yellow line parking restrictions hours of operation, northwest of the Abbey Lane / Abbotsbury Close junction
- d. provision of approximately 15m of double yellow lines at the Abbey Lane / Abbotsbury Close junction
- e. suspension of five parking bays and the provision of single yellow line restriction, southeast of Abbey Lane / Abbotsbury Close junction
- f. suspension of four parking bays and the provision of single yellow line restriction, east of Abbey Lane / Abbotsbury Close junction
- g. suspension of five bays and the provision of single yellow line restriction, west of Britten Court
- h. suspension of three bays and the provision of single yellow line restriction, southeast of Britten Court.

25.2.9 There are no proposals to alter the layout of the existing highway network during the construction of the site.

25.2.10 The highway layout during construction vehicle swept path analysis plans are provided in the Abbey Mills Pumping Station Transport Assessment Figures.

25.2.11 There would be a gated access for the left-turn in / right turn out from the site access onto Gay Road.

25.2.12 Parking for 15 essential maintenance vehicles would be provided on site. Some parking for workers would be provided on site.

25.2.13 During construction all materials would be transported by road. Construction details for the site relevant to the construction are summarised in Table 25.2.1

Table 25.2.1 Construction traffic details

Description	Assumption
Assumed peak period of construction lorry movements	Site Year 2 of construction
Assumed average peak daily construction lorry vehicle movements and duration	140 movements per day (70 vehicle trips) 1 month
Typical types of lorry requiring access (comprising rigid-bodied, flatbed and articulated vehicles)	Excavation lorries Temporary construction material lorries Concrete lorries Plant and equipment lorries Rebar lorries Imported fill lorries Cement tanker lorries Aggregate lorries

Description	Assumption
	Office lorries, Pipe/track/oils lorries Grout/materials lorries

Note: a movement is a construction vehicle moving either to or from the site. A Site Year is a 12 month period, one in a series of Site Years; Site Year 1 commences at the start of construction.

Construction routes

- 25.2.14 The site would be accessed from the existing site entrance on Gay Road, with construction traffic travelling along Gay Road, Abbey Lane and Stratford High Street (A118) which forms part of the Strategic Road Network (SRN). Vehicles would then use either the Blackwall Tunnel Northern Approach (A12) or Bow Road (A11), both of which form part of the TLRN.
- 25.2.15 Figure 25.2.2 in the Abbey Mill Pumping Station Transport Assessment Figures shows the primary construction routes for the site and the main junctions along the immediate construction traffic routes are:
- a. Abbey Lane/ Stratford High Street (A118)
 - b. Stratford High Street (A118) / Blackwall Tunnel Northern Approach (A12) / Bow Road (A118).
- 25.2.16 Construction routes have been discussed with Transport for London (TfL) and the Local Highway Authority, the LB of Newham.
- 25.2.17 The exact routing depends on the material origin and destinations which are detailed in the *Project-wide TA*.

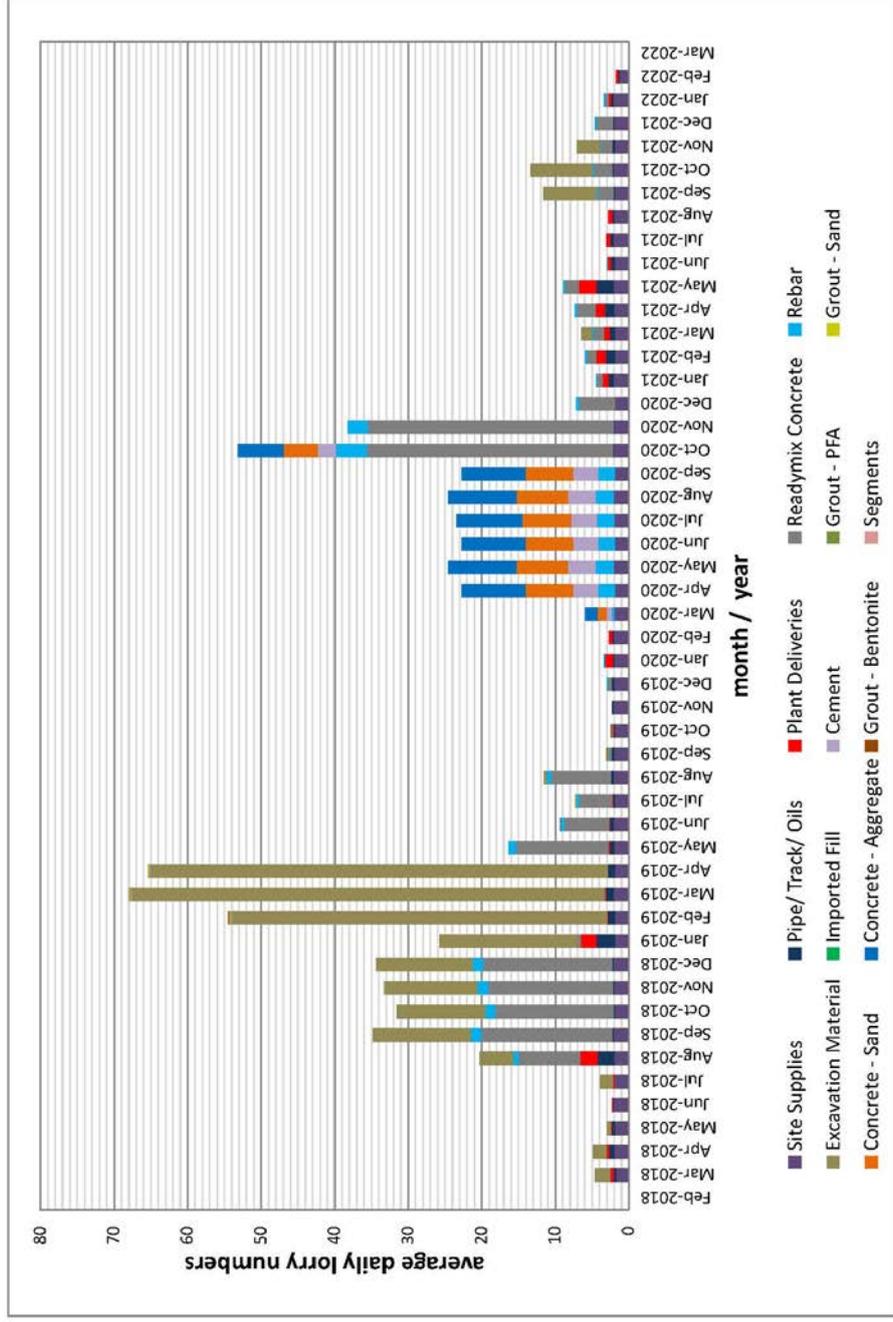
Proposed construction flows

Construction vehicles

- 25.2.18 The proposed working hours are set out in the *CoCP* and vehicle movements would take place during the standard day shift of ten hours on weekdays (08:00 to 18:00) and five hours on Saturdays (08:00 to 13:00) with up to one hour before and after these hours for mobilisation and demobilisation of staff.
- 25.2.19 Construction activity would occur 24 hours a day for some periods but during such periods, construction vehicle movements would only occur during the ten and five hour periods stated above.
- 25.2.20 A limited number of extensions to working hours may be required to cover certain construction activities at the Abbey Mills Pumping Station site such as major concrete pours. The site would also require continuous working hours when the tunnelling and secondary lining construction activities are taking place. These underground works would occur on a continuous 24 hour cycle seven days a week. However, construction vehicle movements would be limited to the hours stated in para. 25.2.18 other than in exceptional circumstances.

- 25.2.21 In exceptional circumstances HGV and abnormal load movements could occur up to 22:00 on weekdays for large concrete pours and later at night on agreement with the LB of Newham (ie, for delivery of the Tunnel Boring Machine).
- 25.2.22 In this assessment it has been assumed that all construction materials to and from this site would be transported by road.
- 25.2.23 Construction at this site may involve extended working hours (between 18:00 and 22:00 on weekdays and between 13:00 and 17:00 on Saturdays) and 24 hour working seven days a week, for a limited period. However, construction vehicle movements would be limited to the hours stated in para. 25.2.18 other than in exceptional circumstances.
- 25.2.24 A site-specific peak construction assessment year has been identified. The histogram in Plate 25.2.1 shows that the peak site-specific activity at the Abbey Mills Pumping Station site is predicted to be in Site Year 2 of construction. The site-specific peak aligns with the overall project-wide construction peak activity year of 2019.
- 25.2.25 This *TA* assesses this site-specific peak construction year. As detailed in Table 25.2.1, there would be 140 average peak daily construction lorry vehicle movements (ie, 70 two-way movements).
- 25.2.26 The number of vehicular movements would vary throughout the construction period, with Plate 25.2.1 indicating the construction vehicle profile during construction.
- 25.2.27 The assessment has been based on 10% of the daily number of lorry journeys occurring in the peak hours, which has been agreed with TfL as a reasonable approach. It is recognised that it may be desirable to reduce the number of construction lorry movements in peak hours and the mechanisms for addressing this would form part of the *Traffic Management Plans (TMP)* which are required as part of the *CoCP*.

Plate 25.2.1 Estimated construction lorry profile



Note: Figure shows approximate volumes and number of vehicle trips based upon assumed timings for the works. It is not a programme and remains subject to change.

- 25.2.28 As the *Project-wide TA* explains, the TfL Highway Assignment Models (HAMs) used for the strategic highway modelling represent peak hours of 08:00 to 09:00 and 17:00 to 18:00 and these have been taken as being the network-wide AM and PM peak hours in the project-wide and site-specific assessments.
- 25.2.29 The 07:00 to 09:00 and 17:00 to 19:00 periods identified from the local traffic surveys are busier on the network in the weekday than those encountered at the weekends (this is discussed in Section 25.4). Whilst the AM and PM peak hours differ slightly from these network-wide peak hours, in practice the number of vehicle movements at this site would be low in comparison to base case traffic flows on the adjacent network and is expected to be constant throughout the day.
- 25.2.30 Hourly construction vehicle trips during the inter-peak period are not expected to exceed the hourly trips generated between 08:00 - 09:00 and 17:00 - 18:00. The peak travel periods hours utilised for the modelling assessments in this report are therefore the weekday periods between 08:00 - 09:00 and 17:00 - 18:00.
- 25.2.31 The peak month in Site Year 2 of construction has been used for the assessment, in which the average daily number of vehicles would be 70 during a day (140 two-way movements). In addition, there would be a further three months that would have between 100 – 130 movements and a further five months of over 60 movements during the four year build programme.
- 25.2.32 Other construction vehicle movements associated with site operations and contractor activities would be cars and light goods vehicles (LGVs). The construction worker vehicle movements expected to be generated by the Deptford Church Street site are shown in Table 25.2.4.

Construction workers

- 25.2.33 The construction site is expected to require a maximum workforce of 45 workers on site at any one time. The number and type of workers is shown in Table 25.2.2.

Table 25.2.2 Maximum estimated construction worker numbers

Contractor		Client
Staff*	Labour**	Staff***
08:00-18:00	08:00-18:00	08:00-18:00
20	20	5

* Contractor Staff – engineering and support staff brought in to direct and project manage the engineering work and site.

** Contractor Labour – those working on site doing engineering, construction and manual work.

*** Client Staff– engineering and support staff managing the project and supervising the Contractor.

- 25.2.34 The worker mode split has been derived by taking the highest number of workers during the peak month and calculating the percentage of trips by mode using the 2001 Censusⁱⁱ journey to work data for the area in the vicinity of the Abbey Mills Pumping Station site. The Census data indicates that the predominant mode of travel for journeys to work in this area is by car.
- 25.2.35 Worker parking is currently available for the works being undertaken for the Lee Tunnel and as such the same has been assumed for the proposed Thames Tideway Tunnel works.
- 25.2.36 The mode split outlined in Table 25.2.3 has been used to assess the impact of worker journeys on the highway and public transport networks.

Table 25.2.3 Transport mode split

Mode	Percentage of trips to site	Equivalent number of worker trips (based on 45 worker trips)	
		AM peak hour (07:00-08:00)	PM peak hour (18:00-19:00)
Bus	8%	4	4
National Rail	10%	5	5
Tube	14%	6	6
Car driver	54%	24	24
Car passenger	4%	2	2
Cycle	2%	1	1
Walk	5%	2	2
River	0%	0	0
Other (taxi/motorcycle)	3%	1	1
Total	100%	45	45

- 25.2.37 Information regarding the travel arrangements of these workers would be included in the *Construction Management Plan* and *site-specific Travel Plan* documents for the site.
- 25.2.38 It is difficult to predict with certainty the directions to and from which workers at the site would travel. Staff could potentially be based in the local area or in the wider Greater London area and are unlikely to have the same trip attraction to primary A roads as construction lorries.

ⁱⁱ Based on 2001 Census. This type of data had not been released from the 2011 Census at the time of the assessment.

- 25.2.39 However, it has been assumed that the origins of worker vehicle trips would be similar to the origins of trips to the zone in the TfL Highway Assignment Model (HAM) in which Abbey Mills Pumping Station is located.
- 25.2.40 The methodology for assigning worker trips to the transport networks has been agreed with TfL but still to be formally agreed with the LHA.
- 25.2.41 At this site there would be no parking provided within the site boundary for workers and measures would be incorporated into site-specific *Travel Plan* requirements in order to minimise the number of workers travelling to and from the site by car. This accords with the overall objectives of the *Draft Project Framework Travel Plan*.
- 25.2.42 However, given that not all parking in the surrounding streets is subject to restrictions at all times and that spare capacity has been observed within the available on-street parking provision, this *Transport Assessment* has considered the effects that could arise if workers were to travel by car and park in the surrounding streets. This is to ensure a robust assessment of the likely effects but should be viewed against the commitments made in the *Draft Project Framework Travel Plan* and the requirements for site-specific Travel Plans which in practice mean it is highly unlikely that any workers would travel by car.

Vehicle movements summary

- 25.2.43 Other construction vehicle movements associated with site operations and contractor activities would be cars and light good vehicles. The construction worker vehicle movements expected to be generated by the Abbey Mills Pumping Station site are shown in Table 25.2.4.
- 25.2.44 Table 25.2.4 also shows the construction lorry movement assumptions for the local peak traffic periods. These are based on the peak months of construction activity at this site.

Table 25.2.4 Peak construction works movements

Vehicle type	Vehicle movements per time period				
	Total Daily	0700 to 0800	0800 to 0900	1700 to 1800	1800 to 1900
Construction vehicle movements 10%*	140	0	14	14	0
Other construction vehicle movements**	36	0	4	4	0
Worker vehicle movements***	48	24	0	0	24
Total	224	24	18	18	24

* The assessment has been based on 10% of the daily construction lorry movements associated with materials taking place in each of the peak hours.

** Other construction vehicle movements includes cars and light goods vehicles associated with site operations and contractor activity.

*** Worker vehicle numbers based on 54% of workers driving, derived by taking the highest number of workers during the peak month and calculating the % of trips using the 2001 Census Journey to Work data. However, where appropriate, the CoCP and site-specific Travel Plan would include measures to reduce the number of workers driving to the site.

25.2.45 The assessment has been based on a combination of the peak hour of movements for construction and worker vehicle movements between 07:00 to 09:00 and 17:00 to 19:00. These have been applied to the peak hours to take into account the highest number of movements generated by the site. In reality, not all peaks for these movements would occur concurrently and the peak for worker trips would be outside of the highway network peak hour, therefore the assessment is considered to be a robust case.

25.2.46 Based on the above, an average peak flow of 224 vehicle movements a day is expected during the months of greatest activity during Site Year 2 at this site. At other times in the construction period, vehicle flows would be lower than this average peak figure.

25.2.47 Table 25.2.4 shows that in the AM (07:00 – 09:00) and PM (17:00 – 19:00) peak periods, the Abbey Mills Pumping Station site would generate approximately 42 vehicle movements. This has been assessed against the peak hour operation of the highway network. .

Code of Construction Practice

25.2.48 Measures incorporated into the *Code of Construction Practice (CoCP) Part A* (Section 5) to reduce transport effects include:

- a. site specific *Traffic Management Plans (TMP)*: to set out how vehicular access to the site would be managed so as to minimise impact on the local area and communicate this with the local borough and other stakeholders. This includes any works on the highway, diversion or temporary closure of the highway or public right of way
- b. HGV management and control: to ensure construction vehicles use appropriate routes to the sites and the vehicle fleet and/or drivers meet current safety and environmental standards.

25.2.49 In addition to the general transport measures within the *CoCP Part A*, the following site specific transport measures have been incorporated into the *CoCP Part B* (Section 5) for the Abbey Mills Pumping Station site:

- a. The access to the Thames Tideway Tunnel project site is through the Thames Water Pumping Station lands
- b. Access is from Abbey Lane/Gay Road only
- c. The site access is to be from Gay Road with only left turn into the site and right turn out
- d. Limited parking for workers is allowed at this site
- e. Sections of on-street parking along Abbey Lane would be suspended

- f. Double yellow line parking restrictions would be used at some locations on Abbey Lane
- g. Single yellow line parking restrictions would have extended hours, and additional single yellow line restrictions would be used on Abbey Lane
- h. Site vehicles would not be permitted to wait at any point along Abbey Lane
- i. Special Types (General Order 2003) (STGO) vehicles and other long loads are required to have a suitable escort along Abbey Lane to forewarn other road users
- j. The Contractors *Traffic Management Plan* needs to take due consideration of the residents and other users of Abbey Lane from Stratford High Street (A118) to the existing Abbey Mills Pumping Station. It should be noted that Abbey Lane Sure Start Children's Centre includes services that include those for the blind/partially sighted. The *Traffic Management Plan* will include measures including requirements for all suppliers to be notified of risks and controls using Abbey Lane including no waiting constraint. This may include restrictions on delivery hours where practical and strict enforcement of speed limits.
- k. The footpath around the south of the site by Prescott Channel/ Channelsea to be maintained throughout works.

25.2.50 Based on current travel planning guidance including TfL's '*Travel Planning for new development in London* (TfL, 2011)¹', this development lies within the threshold for producing a *Strategic Framework Travel Plan*. A *Draft Project Framework Travel Plan* has been prepared based on the TfL ATTrBuTEⁱⁱⁱ guidance. The *Draft Project Framework Travel Plan* addresses project-wide travel planning measures including the need for a project-wide Travel Plan Manager, initial travel surveys during construction and a monitoring framework. It also contains requirements and guidelines for preparing site-specific Travel Plans. The site-specific travel planning requirements of relevance to the *Draft Project Framework Travel Plan* are as follows:

- a. information on existing transport networks and travel initiatives for the Abbey Mills Pumping Station site including shuttle bus services for staff and labour
- b. a mode split established for the Abbey Mills Pumping Station site construction workers to establish and monitor travel patterns
- c. site-specific targets and interim targets would be established based on the mode share which would link to objectives based on national, regional and local policy

ⁱⁱⁱ Assessment Tool for Travel plan Building Testing and Evaluation, (ATTrBuTE), is a web-based travel planning tool, which ensures that Travel Plans are in accordance with TfL's published guidance on travel planning for new development in London, <http://www.attrbute.org.uk/>.

- d. a nominated person would be assigned responsibility for managing the Travel Plan monitoring and action plans specifically for this site.

Operation

- 25.2.51 The operational structure would be located within the southern area of the existing Thames Water Abbey Mills site, beneath a newly constructed hardstanding area. There would be no public access to this area.
- 25.2.52 During operation it is anticipated that there would be no significant issues for the transport infrastructure and operation within the local area, because maintenance trips to the site would be infrequent and short-term. On this basis the only elements considered are effects on highway layout and operation.
- 25.2.53 There would be potential for some operational issues to arise as a result of the short-term changes to the physical aspects of access to the site for maintenance. Only these issues are considered because the minimal changes required to the highway network on a temporary basis mean that a quantitative assessment is not required. The scope of this analysis has been discussed with the TfL and the LB of Newham.
- 25.2.54 Access would be required for a light commercial vehicle on a three to six monthly maintenance schedule.
- 25.2.55 Additionally there would be more significant maintenance visits approximately every ten years which would require access to enable two mobile cranes and associated support vehicles to be brought to the site. The cranes would facilitate lowering and recovery of tunnel inspection vehicles and to provide duty/standby access for personnel. However, these ten yearly visits to the works constructed as part of the Thames Tideway Tunnel project would be combined with those for the works constructed as part of the Lee Tunnel project to minimise operational effects on the local highway network.
- 25.2.56 During operation, access for maintenance vehicles would be via the existing access to the Pumping Station on Gay Road (accessed from Abbey Lane and Stratford High Street (A118)). The highway layout during operation (areas 1 and 2) plans are provided in the Abbey Mill Pumping Station Transport Assessment Figures and indicate the operational layout at the site.

25.3 Assessment methodology

Engagement

- 25.3.1 An extensive scoping and technical engagement process has been undertaken. All consultee comments relevant to this site are presented in the *Environmental Statement*.
- 25.3.2 The *TA* examines the operational phase in order to satisfy the relevant stakeholders that technical issues have been addressed (i.e. those associated with access for maintenance activities).

Consultees

- 25.3.3 Throughout the scoping and technical engagement process, the key stakeholders with regards to transport, primarily TfL and the relevant local borough for each site, have been consulted. For Abbey Mills Pumping Station, the LB of Newham has been consulted and the comments that have arisen relating directly to Abbey Mills Pumping Station have been recorded and responded to accordingly.
- 25.3.4 The key issues arising from the stakeholder engagement are:
- a. the assessment should include any interaction with Crossrail construction traffic where the two project programmes overlap
 - b. the assessment should include arrangements for dealing with construction excavated material, in particular maximising the use of water-borne transport for muck away, and the import of construction materials where possible
 - c. the assessment should address minimising impacts on local residents, particularly in respect of parking arrangements and highway routes used for site access
 - d. Travel Plans should be included
 - e. the Construction Management measures contained within the Construction Management Plan for the Lee Tunnel works at Abbey Mills should be utilised for the Thames Tideway Tunnel works providing they are proven to work
 - f. LB of Newham has confirmed that it is content with the construction route coming from west along Stratford High Street (A118)
 - g. LB of Newham has no problem with the number of construction vehicles expected to the site as outlined in the Phase 2 consultation packs
 - h. since the Thames Tideway Tunnel project would utilise the same parking restrictions in place along Abbey Lane for the Lee Tunnel works, the borough suggest it might be better to leave the restrictions in place after completion of the Lee Tunnel rather than remove and then reinstate the same restrictions at the commencement of the Thames Tideway Tunnel works
 - i. LB of Newham confirmed that it is content that the parking survey demonstrated that there is enough capacity available at present to accommodate any displaced cars within the surrounding roads
 - j. LB of Newham agrees that no junction modelling needs to be undertaken at the site access provided that it is safely managed (i.e. traffic marshal)
 - k. LB of Newham has no concerns about cumulative flows in the vicinity of the Abbey Mills Pumping Station site
 - l. if construction vehicles are to access the site arriving westbound on the Stratford High Street (A118) a safety impact assessment must be

carried out to determine whether the Stratford High Street/Abbey Lane junction needs to be realigned

m. discussions are required with TfL on whether Abbey Lane/Stratford High St junction needs to be modelled.

25.3.5 The key technical issues raised have been addressed as far as is practicable at this stage within this *TA*, the *Project-wide TA* and the *Environmental Statement*, in consultation with both TfL and the LB of Newham.

Construction

25.3.6 The assessment methodology for the construction phase follows that described in the *Project-wide TA* with the exception that local modelling has not been undertaken for this site as the change in traffic flows resulting from construction at the Abbey Mills Pumping Station site would be very low. This has been discussed with TfL and LB of Newham on the basis that the local highway network, including the junction of Abbey Lane and Stratford High Street (A118), has been operating satisfactorily during the construction of the Lee Tunnel site. As the construction vehicle flows generated by the Lee Tunnel site on Gay Road, Abbey Lane and Stratford High Street (A118) are similar to those that would be generated by the Thames Tideway Tunnel on the same site, it has been agreed to assume that the highway network would also work satisfactorily during the Thames Tideway Tunnel construction.

25.3.7 The assessment undertaken is therefore qualitative based on professional judgement drawing on survey data and the strategic traffic modelling (which includes all Thames Tideway Tunnel sites) as appropriate. This enables the effect of all other Thames Tideway Tunnel sites on the area surrounding the Abbey Mills Pumping Station site to be taken into account within the assessment of the peak year of construction at this site.

Construction assessment area

25.3.8 The assessment area for the Abbey Mills Pumping Station site includes the site access on Gay Road and the junction of Abbey Lane and Stratford High Street (A118).

25.3.9 These roads and junctions have been assessed for highway, cycle and pedestrian impacts. Effects on local bus services within 640m (see para. 25.4.30) of the site and rail services within 960m (see para. 25.4.34) of the site have also been assessed. The Public Transport Accessibility Level (PTAL) of the site, calculated using TfL's approved PTAL methodology assumes a walking speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within an eight minute walk (640m).

Construction assessment year

25.3.10 To assess the busiest case scenario for the Abbey Mills Pumping Station locality, the peak construction traffic year has been identified. This ensures that the assessment for Abbey Mills Pumping Station takes into consideration the heaviest flow of construction vehicles at this site.

- 25.3.11 The site-specific peak construction traffic year at Abbey Mills Pumping Station is Site Year 2 of construction.
- 25.3.12 The assessment of the aggregated Thames Tideway Tunnel construction traffic flows on the wider highway network is included within the *Project-wide TA*

Highway network modelling

- 25.3.13 As indicated in paras. 25.3.6 and 25.3.7 no site specific modelling has been undertaken for the Abbey Mills Pumping Station site. As the scale of the Lee Tunnel works at Abbey Mills Pumping Station is similar to the proposed Thames Tideway Tunnel works at this location in terms of construction vehicle activity, it was agreed with TfL and the LB of Newham that local modelling would not be required. Instead, it was agreed that this *TA* would present a comparison of the scale of construction works for the Lee and Thames Tideway Tunnels in terms of vehicle trips.

Operation

- 25.3.14 The assessment methodology for the operational phase follows that described in the *Project-wide TA*. There are no site specific variations for undertaking the operational assessment of this site.
- 25.3.15 Given the level of transport activity associated with the Thames Tideway Tunnel during the operational phase, only the localised transport issues around the Abbey Mills Pumping Station site are assessed (i.e. other Thames Tideway Tunnel sites are not considered).
- 25.3.16 With regard to other developments in the vicinity of the Abbey Mills Pumping Station site; all developments within 1km of the site and would be complete and operational by Year 1 of operation. As a result, these developments have been included within the operational base case which takes into consideration the effects on highway layout and operation.

Operational assessment area

- 25.3.17 The assessment area for the operational assessment remains the same as for the construction assessment as set out in paras. 25.3.8 and 25.3.9.

Operational assessment year

- 25.3.18 The operational assessment year has been taken as Site Year 1 of operation which is the year in which it is assumed that the Thames Tideway Tunnel would become operational. As transport activity associated with the operational phase is very low, there is no requirement to assess any other year beyond that date.

25.4 Baseline

- 25.4.1 This section sets out the baseline conditions on the local transport network in the vicinity of the Abbey Mills Pumping Station site in 2012, with the exception of the traffic survey data which was collected in 2011.

Policy review

- 25.4.2 The site is located in within the LB of Newham; the relevant national, regional and local policy documents have been reviewed and included in Appendix A.

Existing land use

- 25.4.3 The site is located on land currently owned by Thames Water and partly occupied by the Abbey Mills Pumping Station. It comprises an area of greenfield land to the south of the Abbey Mills Pumping Station.
- 25.4.4 The surrounding land use is predominantly industrial, with residential areas to the north of the site. The nearest residents are situated on Bisson Road and Riverside Road, approximately 20m north-west of the site.

Existing access

- 25.4.5 The site is currently accessed from Stratford High Street (A118) via Abbey Lane and Gay Road; using the existing access to the Pumping Station. The site vehicle access is 5.1m in width on the southern side.

Pedestrian network and facilities

- 25.4.6 The key existing pedestrian network to and from the site are directly related to the local public transport service including bus stops and rail stations. The key pedestrian network related to the Abbey Mills Pumping Station site are:
- a. Gay Road and Abbey Lane (access to Abbey Road DLR)
 - b. Stratford High Street (A118) to bus stops on Stratford High Street (A118).

- 25.4.7 The existing pedestrian network and facilities in the vicinity of the site are described below and shown in Figure 25.4.1 in the Abbey Mills Pumping Station Transport Assessment Figures.

Gay Road

- 25.4.8 Gay Road, which is located immediately northwest of the site, provides an east-west link between Riverside Road and Bisson Road to the west and Abbey Lane to the east. There are footpaths in place along both sides of Gay Road and Abbey Lane which vary in width from 2.0m to 3.4m as shown in Plate 25.4.1.

Plate 25.4.1 Gay Road



Abbey Lane

- 25.4.9 Abbey Lane is located to north of the site and connections between Gay Road and High Street (A118). Abbey Lane also extends from Gay Road eastwards to Mitre Road.
- 25.4.10 Footways are in place along both sides of the road which vary in widths between 2.5m and 3.4m on the north-eastern side, and between 2.4m and 3.1m on the south-western side.
- 25.4.11 A zebra crossing is located on Abbey Lane approximately 250m walking distance north of the site access. The crossing links the residential units on the south-eastern side of the road to the park area on the north-western side. This crossing point includes dropped kerbs and tactile paving.
- 25.4.12 A central refuge and beacon light is provided on Abbey Lane at its junctions with Godfrey Street which is approximately 285m walking distance to the north of the site.
- 25.4.13 A pedestrian controlled signal crossing is provided on Abbey Lane at its junction with High Street (A118).
- 25.4.14 Plate 25.4.2 shows a view along Abbey Lane through the junction with Godfrey Street south of the junction with Bisson Road.

Plate 25.4.2 Abbey Lane



High Street (A118)

- 25.4.15 High Street (A118) is located approximately 400m walking distance northwest of the site. It routes between the Blackwall Tunnel Northern Approach (A12) to the southwest and Stratford Broadway and Great Eastern Road (A118) to the northeast.
- 25.4.16 A staggered pedestrian controlled crossing is provided on High Street (A118) which is located on the immediate north-eastern side of the High Street (A118)/ Abbey Lane junction. The central pedestrian refuge on High Street (A118) is approximately 4.5m wide and includes dropped kerbs and tactile paving. Plate 25.4.3 shows this junction along High Street (A118).

Plate 25.4.3 High Street (A118) at its junction with Abbey Lane



Additional pedestrian facilities

- 25.4.17 The Greenway also provides an east to west pedestrian and cycle route from Bow in the west to Beckton in the east. The path passes along the north-eastern side of the Abbey Mills Pumping Station and provides access between the site and West Ham Underground and National Rail station.
- 25.4.18 There is also a public footway that follows the Prescott Channel, to the west of the site. Pedestrians are able to use this footway to connect with The Greenway and Three Mills Green, a park area located to the west of Prescott Channel. There are also a number of internal footways within Three Mills Green.

Cycle network and facilities

- 25.4.19 The existing cycle network and facilities in the vicinity of the site are described below and shown in Figure 25.4.1 in the Abbey Mills Pumping Station Transport Assessment Figures.
- 25.4.20 A designated London Cycle Network route (off-road) runs along Abbey Lane and continues east and south where it follows the banks of the River Lee and runs adjacent to the south-eastern boundary of the Abbey Mills Pumping Station site. This route is accessed through The Greenway described in paras. 25.4.17 and 25.4.18.
- 25.4.21 There is also a designated London Cycle Network route (on-road) along Bisson Road 350m west of the site which links to Three Mills Lane via an off-road London cycle route along the Three Mills Wall River and continues to Bromley-by-Bow Underground station. Cyclists can access Bisson Road via off-road London cycle routes along High Street (A118) and The Greenway.

Barclays Cycle Superhighways

- 25.4.22 Barclays Cycle Superhighways (CS) are new cycle routes that run between central London and outer London, providing cyclists with safer, faster and more direct journeys into the city. The cycle lanes have road markings and vertical signage which incorporate information about journey times and links to other cycle routes along these CS routes.
- 25.4.23 The closest CS to the site is CS2 which routes along the A11 from Bow to Aldgate. The cycle route starts at the intersection of Middlesex Street, Mansell Street and Whitechapel High Street in Tower Hamlets and runs along Whitechapel Road, Mile End Road and finishes at the junction of Bow Road with the A12. This journey takes approximately 20 minutes by cycle.
- 25.4.24 There are plans to extend this route to Ilford after the London 2012 Olympic and Paralympic Games. It is proposed that this route would run along High Street (A118) to connect with Romford Road (A118) and onwards to Ilford.

Barclays Cycle Hire scheme

- 25.4.25 There are currently no Barclays Cycle Hire docking stations located within the vicinity of the site.

Cycle Parking

- 25.4.26 There are currently no cycle parking facilities located within the vicinity of the site.

Public Transport

Public Transport Accessibility Level

- 25.4.27 The Public Transport Accessibility Level (PTAL) of the Abbey Mills Pumping Station site has been calculated using TfL's approved PTAL methodology (TfL, 2011)²(analysis is included in Appendix B).
- 25.4.28 Using this methodology the site has a PTAL rating of between 3 and 4, which indicates that public transport provision in the vicinity is moderate to good (with 1 being the lowest accessibility and 6b being the highest accessibility).
- 25.4.29 Figure 25.4.2 in the Abbey Mills Pumping Station Transport Assessment Figures shows the public transport network around the Abbey Mills Pumping Station site.

Bus services

- 25.4.30 There are a total of six daytime bus routes operate within 640m of the site serving local destinations. There is also one night bus route which operates within a 640m walking distance of the site. These bus services operate from the bus stop at Abbey Lane/Warton Road (High Street A11), eastbound and westbound); 600m northwest of the site.
- 25.4.31 Table 25.4.1 provides a summary of the bus services and their frequencies during the weekday peaks.

Table 25.4.1 Existing day time local bus services and frequency (number of buses per hour)

Bus number	Weekday frequency		Nearest bus stop to the site	Approximate walking distance from the site (m)	Origin - destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)			
25	10	10	Abbey Lane / Warton Road	500	Hainault – Oxford Circus
	10	10		475	Oxford Circus – Hainault
108	7	7		500	Stratford Bus Station – Lewisham Bus Station
	7	7		475	Lewisham Bus Station – Stratford Bus Station
276	6	6		500	Stoke Newington Common – Gateway Surgical
	6	6		475	Gateway Surgical – Stoke Newington Common
339	4	4		500	Stratford City – Shadwell
	4	4		475	Shadwell – Stratford City
425	5	5		500	Nightingale Road – Stratford Bus Station
	5	5		475	Stratford Bus Station – Nightingale Road
D8	5	5	500	Crossharbour Asda – Stratford Bus Station	
	5	5	475	Stratford Bus Station – Crossharbour Asda	

Source: TfL (2012) Timetables. Available at: www.tfl.gov.uk (site last accessed: December 2012)

- 25.4.32 There are approximately eight night-time bus services per hour Monday to Saturday between 00:00 and 05:30 which operate from the Abbey Lane / Warton Road bus stop on High Street (A118) located approximately 500m walking distance northwest of the Abbey Mills Pumping Station site.
- 25.4.33 On average there are 88 daytime bus services in total per hour in the AM peak and 94 bus services in total per hour in the PM peak (two-way direction) within a 640m walking distance of the site.

London Underground

- 25.4.34 There are no London Underground services within 960m of the site. West Ham station is the closest Underground station, which is located approximately 1.2km walking distance or 15 minutes walking time southeast of the site. This station also serves National Rail services.
- 25.4.35 West Ham station is located on the Jubilee, District and Hammersmith & City Lines. This station also serves National Rail services and Jubilee Line trains travel to Stanmore in the west and Stratford in the east. Trains to Stanmore depart every two to five minutes (providing 15 to 20 services per hour) in the AM and PM peaks and trains to Stratford depart every two to six minutes (providing 15 trains per hour) in the AM and PM peaks.
- 25.4.36 District Line trains serving West Ham Underground station travel west to Ealing Broadway, Richmond, Wimbledon and Kensington (Olympia) and east to Upminster. In the AM and PM peaks, trains depart every three to four minutes (providing 15 to 20 trains per hour) to Upminster and every two to six minutes (providing 15 trains per hour) to Road, Ealing Broadway, Richmond, Wimbledon and Kensington Olympia.
- 25.4.37 Hammersmith & City Line trains travel to Barking in the east and Hammersmith in the west. In the AM and PM peaks, Hammersmith & City Line trains depart every nine to 11 minutes providing six trains per hour in each direction.
- 25.4.38 Stratford station is located approximately 1.5km walking distance or 19 minutes walking time northeast of the site, which served by London Underground and London Overground together with Docklands Light Railway (DLR) and National Rail services.
- 25.4.39 Stratford station is served by the Central Line and Jubilee Line. Central Line trains serving this station travel west to Ealing Broadway and West Ruislip and to Epping in the east. In the AM and PM peaks, the frequency of Central Line trains is approximately every two to five minutes providing 15-20 services per hour in each direction. Jubilee Line trains terminate at Stratford and travel west to Stanmore, with trains departing every two to six minutes (providing 15 trains per hour) in the AM and PM peaks.
- 25.4.40 Table 25.4.2 provides a summary of the London Underground services and their frequencies during the weekday AM and PM peaks.

Table 25.4.2 Existing London Underground services and frequency (number of services per hour)

Station / Line	Weekday two-way frequency		Nearest London Underground station to the site	Approximate distance from the site (m)	Origin - destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)			
West Ham Station					
Circle	30	30	West Ham	1200	High Barnet/Edgware – Morden
Hammersmith & City	6	6	West Ham		Hammersmith - Barking
District	30	30	West Ham		Edgware Road, Ealing Broadway, Richmond, Wimbledon and Kensington (Olympia) - Upminster
Jubilee	30	30	West Ham		Stanmore - Stratford
Stratford Station					
Central	30	30	Stratford	1500	Ealing Broadway, West Ruislip - Epping

Source: TfL (2012) Timetables. Available at: www.tfl.gov.uk (site last accessed: December 2012)

25.4.41 Additionally, Bromley-by-Bow station is located approximately 900m southwest of the site, however it is a walking distance of 2km away. This station is served by London Underground services.

25.4.42 Bromley-by-Bow station is located on the District and Hammersmith and City Lines. The services at this station on these lines would be the same as those serving West Ham Underground station.

London Overground

25.4.43 There are no London Overground services within 960m of the site, however, the closest to the site is Stratford station, which is approximately 1.5km walking distance (19 minutes walking time) northeast of the site and is served by London Overground together with London Underground, DLR and National Rail services.

25.4.44 The London Overground runs from Stratford westwards to Richmond and Clapham Junction. Trains run to these destinations approximately every eight minutes in the AM and PM peak periods giving a typical service of seven to eight trains per hour.

25.4.45 Table 25.4.3 provides a summary of the London Overground services and their frequencies during the weekday AM and PM peaks.

Table 25.4.3 Existing London Overground services and frequency (number of services per hour)

Line	Weekday two-way frequency		Nearest London Overground station to the site	Approximate distance from the site (m)	Origin - destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)			
Stratford					
London Overground	8	8	Stratford	1500	Clapham Junction - Stratford
	8	8			Richmond - Stratford

Source: TfL (2012) Timetables. Available at: www.tfl.gov.uk (site last accessed: December 2012)

Docklands Light Railway

- 25.4.46 The closest DLR station is Abbey Road, which is located approximately 600m walking distance or eight minutes walking time east of the site. DLR trains to Stratford and Woolwich Arsenal depart every eight to ten minutes (providing six to seven trains per hour) during the AM and PM peaks. Trains to Beckton depart every ten minutes providing six trains per hour in the AM and PM peaks.
- 25.4.47 The next closest DLR station is Pudding Mill Lane, located approximately 950m walking distance or 12 minutes walking time to the northwest of the site. DLR trains from Pudding Mill Lane travel to Lewisham and Stratford, with trains departing every six minutes providing ten services per hour in each direction during the AM and PM peak hours.
- 25.4.48 West Ham DLR station is 1.2km walking distance southeast of the Abbey Mills site. The services this station provides are the same as Abbey Road DLR station.
- 25.4.49 Additionally Bow Church, Star Lane and Devons Road DLR stations are located 1.5km west, 2.2km southeast and 2.3km southwest of the Abbey Mills site respectively. Bow Church and Devons Road stations have the same DLR services as Pudding Mill Lane DLR station. Star Lane station has the same DLR services as Abbey Road DLR station.
- 25.4.50 Stratford station which is located approximately 1.5km walking distance to the northeast of the site also provides access to DLR services to Lewisham. In the AM and PM peak periods, direct trains to Lewisham depart from Stratford every 6-10 minutes to Lewisham providing 8 trains per hour on that route.
- 25.4.51 Table 25.4.4 provides a summary of the DLR services at Abbey Road station and their frequencies during the weekday AM and PM peaks

Table 25.4.4 Existing DLR services and frequency (number of services per hour)

DLR station	Weekday two-way frequency		Approximate distance from the site (m)	Origin - destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)		
Abbey Road	6	6	600	Stratford – Woolwich Arsenal
	6	6		Stratford – Beckton

Source: TfL (2012) Timetables. Available at: www.tfl.gov.uk (site last accessed: December 2012)

National Rail

- 25.4.52 The closest National Rail station is West Ham, located approximately 1.2km walking distance southeast of the site. West Ham provides access to C2C train services to London Fenchurch Street in the west, Shoeburyness, Grays (via Rainham) and Southend Central (via Ockendon) in the east.
- 25.4.53 In the AM peak hour there are approximately 25 services calling at West Ham in total and 27 services in the PM peak hour.
- 25.4.54 National Rail services are also available from Stratford Station, which is located approximately 1.5km walking distance northeast of the site. Greater Anglia and C2C trains from Stratford station provide services to London Liverpool Street, Shenfield, Southend Victoria, Hertford East, Norwich, Braintree, Clacton-on-Sea, Colchester Town and Ipswich, Grays and Shoeburyness.
- 25.4.55 In the AM peak hour there are approximately 34 services calling at Stratford and 38 services in the PM peak hour.
- 25.4.56 Stratford International Station is located approximately 3km walking distance to the north of the site. This station serves National Rail and DLR services. Southeastern trains provide access to St Pancras, Ebbsfleet International, Gravesend and Ashford International as part of the High Speed 1 network.
- 25.4.57 In the AM peak hour there are approximately 29 services calling at Stratford International and 30 services in the PM peak hour.
- 25.4.58 Table 25.4.5 provides a summary of the National Rail services and their frequencies during the weekday AM and PM peaks.

Table 25.4.5 Existing national rail services and frequency (number of services per hour)

National Rail station	Weekday two-way frequency		Approximate distance from the site (m)	Origin - destination
	AM peak (08:00-09:00)	PM peak (17:00-18:00)		
West Ham	8	10	1200	London Fenchurch Street – Southend Central
	7	8		London Fenchurch Street – Shoeburyness
	10	9		London Fenchurch Street – Grays
Stratford	33	32	1500	Stratford – Liverpool Street
	3	3		Liverpool Street - Braintree
	15	18		Stratford - Richmond
	28	25		Southend Victoria – Liverpool Street
	5	5		Liverpool Street – Hertford East
	5	6		Liverpool Street – Norwich
	2	4		Liverpool Street – Clacton-on-Sea
	8	5		Liverpool Street – Colchester Town
Stratford International	17	17	3000	Margate – St Pancras International
	12	13		Faversham - St Pancras International

River services and navigation

- 25.4.59 There are no river services within the vicinity of the Abbey Mills Pumping Station site. In this *TA* it is assumed that all construction materials would be transported by road.

Taxis

- 25.4.60 There are no taxi ranks within a 640m walking distance of the site.

Highway network and operation

- 25.4.61 The Abbey Mills Pumping Station site is accessed off Gay Road which is a single carriageway two-way road with a speed limit of 30mph. All construction vehicles would access the site via this access.
- 25.4.62 Abbey Lane is a single carriageway two-way road that links High Street (A118) to the Abbey Mills Pumping Station via Gay Road. There are a number of traffic calming measures along Abbey Lane including speed humps and a traffic calming island. A speed limit of 30mph is imposed on Abbey Lane.
- 25.4.63 The junction of Abbey Lane and High Street (A118) is controlled by traffic signals. There is a pelican crossing with a central pedestrian refuge that routes east-west across Abbey Lane. Additionally, there is a staggered pelican crossing across High Street, on the eastern arm of the junction.
- 25.4.64 High Street (A118), which forms part of the SRN, is a dual carriageway that runs from west to east. It is subject to an 18 tonne weight limit and a speed limit of 30mph. To the west it connects to the Blackwall Tunnel Northern Approach (A12) and Bow Road (A11), both of which form part of the TLRN.

Parking

- 25.4.65 Figure 25.4.3 in the Abbey Mills Pumping Station Transport Assessment Figures shows the locations of the existing car parking within the vicinity of the site.

Existing on-street car parking

- 25.4.66 A small section of on-street parking subject to a controlled parking zone (CPZ) is located on one side of Abbey Lane and Gay Road whilst the remaining sections of these roads have single yellow line restrictions. There are three sections of on-street parking which provide approximately 35 parking spaces. The CPZ operates from Monday to Friday from 10:00 to 12:00.
- 25.4.67 No on-street parking is permitted along High Street (A118).
- 25.4.68 Table 25.4.6 summarises the parking restrictions and the number of bays on the roads in the vicinity of the site. The availability and usage of parking capacity on a weekday and a Saturday on the roads in the vicinity of the site is shown in this section in Table 25.4.6.

Table 25.4.6 Existing on-street car parking

Road name	Type of parking restrictions and number of bays	
	Resident	Blue badge
Abbey Lane	24	1
Abbey Road	4	0
Abbotsbury Close	21	1
Bisson Road	135	3
Claypole Road	13	0
Gay Road	4	0
Godfrey Street	12	0
Leggatt Road	75	1
Riverside Road	40	0
Streiner Road	15	0
Total	343	6

25.4.69 In total, there are 343 resident permit holder parking bays located on the surrounding roads. Bisson Road has the highest number of resident bays with 135 bays in total. Parking for blue badge holders is available on Abbey Lane, Abbotsbury Close, Bisson Road and Leggatt Road.

Existing off-street/private car parking

- 25.4.70 There is a Tesco multi-storey car park located at Hancock Road, approximately 1km to the west of the site, which is open from 07:00 to 22:00 Monday to Saturday and 10:00 to 16:00 on Sundays, which is intended for customers' use only.
- 25.4.71 There is also a free car park with 20 spaces on Church Street located a walking distance of 1.2km northeast of the Abbey Mills Pumping Station site.
- 25.4.72 Additionally, the LB of Newham has a multi-storey car park located opposite Stratford Bus Station which operates on a 24-hour basis Monday to Sunday. It is located approximately 1.4km north of the Abbey Mills Pumping Station site. The capacity of this car park is 675 spaces and it is approximately 0.9km from the site. The charges are shown in Table 25.4.7.

Table 25.4.7 Off street parking charges

Duration	Charge
Up to 1 hour	£2.00
Up to 2 hours	£4.00
Up to 3 hours	£5.00
Up to 4 hours	£8.00
Up to 6 hours	£15.00
Up to 12 hours	£20.00
Up to 24 hours	£25.00
Annual season ticket	£875

Coach parking

- 25.4.73 There is no coach parking in the immediate vicinity of the Abbey Mills Pumping Station site, with the nearest being on Bridge Road approximately 1.3km walking distance north east of the site.

Car clubs

- 25.4.74 Car clubs provide members with easy access to cars for short-term use. Cars are available as and when needed and allow members to access a car without purchase, storage and operational costs associated with owning a private car.
- 25.4.75 At no.1 High Street (A118) there is one car club parking space operated by CityCar Club located approximately 480m walking distance northwest of the site.
- 25.4.76 There is an additional CityCar Club car space located at Burford Wharf on Channelsea Road, approximately 800m northeast of the site.
- 25.4.77 Figure 25.4.3 indicates the location of the car club spaces in the vicinity of the site.

Servicing and deliveries

- 25.4.78 There are no loading bays located within the vicinity of the site

Baseline survey data**Description of data**

- 25.4.79 Automatic Traffic Count (ATC) data for Abbey Lane south of Britten Lane was collected from TfL and was analysed to identify the traffic flows along this road in September 2011. The flows are discussed in para. 25.4.96.
- 25.4.80 Five year accident data on the roads local to the Abbey Mills Pumping Station site was obtained from TfL. This data is discussed in this section in paras. 25.4.108 to 25.4.121.
- 25.4.81 Baseline survey data for the Abbey Mills Pumping Station site were collected in May, July and August / September 2011 to establish the

existing transport movements in the area. Figure 25.4.4 in the Abbey Mills Pumping Station Transport Assessment Figures shows the survey locations in the vicinity of the Abbey Mills Pumping Station site. Appendix A of Section 3 of the *Project-wide TA* includes a baseline report which provides full details of the surveys undertaken and the data collected.

- 25.4.82 The scope of the surveys in terms of location and time periods was considered to ensure that the data required for assessment was collected. In some cases ATC data was collected on links to validate the junction count data and provide information for noise and air quality assessments.
- 25.4.83 Pedestrian and cycle count data was collected at locations where flows could be affected either through diversions or the generation of additional trips or where conflicts could occur with construction vehicles. Parking survey data was collected where parking suspensions would be necessary or where additional parking demand could be generated by the proposed development.
- 25.4.84 Traffic surveys were carried out on a weekday and a weekend to represent a weekly profile of traffic at particular locations. Where two weekly profiles are surveyed, the busiest survey was used.
- 25.4.85 The surveys undertaken and their locations are summarised in Table 25.4.8.

Table 25.4.8 Survey types and locations

Survey type and location	Date
Junction turning and movement survey (including pedestrian and cycle movements)	
High Street (A118) / Abbey Lane	19 th and 21 st May 2011
Automatic Traffic Count (ATC) survey	
Abbey Lane approximately 25m to the south of Britten Court	7 th to 22 nd September 2011
Pedestrian and cycle surveys	
Pedestrian route from Bisson Road across Prescott Channel	19 th and 21 st May 2011 and 1 st and 3 rd September 2011
Pedestrian route from Gay Road to Willis Road	19 th and 21 st May 2011 and 1 st and 3 rd September 2011
Junction of Abbey Lane / Abbotsbury Close – east to west	19 th and 21 st May 2011

Survey type and location	Date
Junction of Abbey Lane / Abbotsbury Close – north to south	19 th and 21 st May 2011
Parking surveys	
Abbey Lane, Godfrey Street, Abbotsbury Close, Britten Court, Gay Road, Delius Grove, Riverside Road, Streimer Road, Leggatt Road, Bisson Road, Claypole Road	19 th May 2011 and 21 st May 2011

25.4.86 Pedestrian and cyclist flow data from the surveys provided the baseline pedestrian and cyclist traffic data sets which are set out in Table 25.4.9 and Table 25.4.10.

25.4.87 The following ATC and junction turning movement surveys are on the construction traffic routes to and from the Abbey Mills Pumping Station site:

- a. High Street (A118) / Abbey Lane junction survey
- b. Abbey Lane ATC survey.

Results of the surveys

25.4.88 The surveys inform the baseline situation in the area surrounding the site and are summarised in the following paras.

Pedestrians

25.4.89 Pedestrian surveys were undertaken at four locations around the site as indicated in Figure 25.4.4 in the Abbey Mill Pumping Station Transport Assessment Figures during the AM, PM and weekend peak hours.

25.4.90 Table 25.4.9 indicates the survey locations and flow of pedestrians along the main routes surrounding the site.

Table 25.4.9 Existing pedestrian flows

Road/route	Direction	Weekday			Weekend (13:00-14:00)
		AM peak (08:00 - 09:00)	Inter-peak (12:00 - 13:00)	PM peak (17:00 - 18:00)	
Southwall Footbridge (South of Bisson Road) -	Northbound	4	14	34	45
	Southbound	18	11	22	35
Abbey Lane (East of Gay Road) -	Westbound	8	21	49	11
	Eastbound	27	25	8	19
Pedestrian and cycle crossing on Abbey Lane (West of Abbotsbury Close) -	Northbound	18	5	2	1
	Southbound	5	5	16	5
Abbey Lane (at Abbotsbury Close) -	Northwestbound	43	35	16	53
	Southeastbound	30	27	45	50
Abbey Lane / High Street (A118) junction pedestrian crossings -					
High Street (northeast side)	Northwestbound	211	67	55	82
	Southeastbound	29	39	70	44
Abbey Lane	Northeastbound	38	32	58	37
	Southwestbound	37	42	53	48

- 25.4.91 The pedestrian surveys along the construction traffic routes in the vicinity of the site indicate that:
- a. At the High Street (A118)/ Abbey Lane junction, approximately 211 pedestrians crossed High Street (A118) in a north-westerly direction and approximately 29 crossed in the opposite direction during the AM peak. In the PM peak, approximately 55 pedestrians crossed in a north-westerly direction and approximately 70 in the opposite direction
 - b. Pedestrian flows across Abbey Lane at the High Street (A118)/ Abbey Lane junction were recorded as 38 pedestrians crossing in a north-easterly direction and 37 crossed in the opposite direction during the AM peak. In the PM peak, a balance flow of approximately 58 pedestrians crossed in a north-easterly direction and approximately 53 in the opposite direction
 - c. The pedestrian crossing across Abbey Lane to the west of Abbotsbury Close had low pedestrian flows.
 - d. Flows along Abbey Lane at the Abbey Lane/ Abbotsbury Close junction showed approximately 30 pedestrians travelling south-eastwards in the AM peak and approximately 43 north-westwards. In the PM peak these were approximately 45 south-eastwards and approximately 16 north-westwards
 - e. The survey on Abbey Lane east of Gay Road showed approximately 27 pedestrians travelled eastwards and approximately 8 westwards in the AM peak, and approximately 8 eastwards and approximately 49 westwards in the PM peak.

25.4.92 The results of the survey indicate that the pedestrian crossing across High Street (A118) at the High Street (A118)/ Abbey Lane junction, is well patronised in the AM peak in a north-westerly direction. At all other times in the AM and PM peak periods, the general pedestrian flows are much lower.

Cyclists

25.4.93 Cyclist surveys were undertaken at the same locations as the pedestrian surveys during the AM and PM peak hours.

25.4.94 Table 25.4.10 indicates the flows of cyclists along the main routes surrounding the site.

Table 25.4.10 Existing cycle traffic

Road/route	Direction	Weekday			Weekend (13:00-14:00)
		AM peak (08:00 - 09:00)	Inter-peak (12:00 - 13:00)	PM peak (17:00 - 18:00)	
Southwall Footbridge (south of Bisson Road)	Northbound	5	2	11	5
	Southbound	21	7	6	7
Abbey Lane (east of Gay Road)	Westbound	12	6	2	5
	Eastbound	3	3	11	3
Pedestrian and cycle crossing on Abbey Lane (west of Abbotsbury Close)	Northbound	1	0	0	0
	Southbound	0	0	0	0
Abbey Lane (at Abbotsbury Close)	Northwestbound	7	3	1	6
	Southeastbound	5	3	10	2
Abbey Lane / High Street (A118) junction pedestrian crossings					
High Street (northeast side)	Northwestbound	12	10	27	2
	Southeastbound	17	9	10	3
Abbey Lane	Northeastbound	2	0	14	0
	Southwestbound	4	1	5	0

Transport Assessment

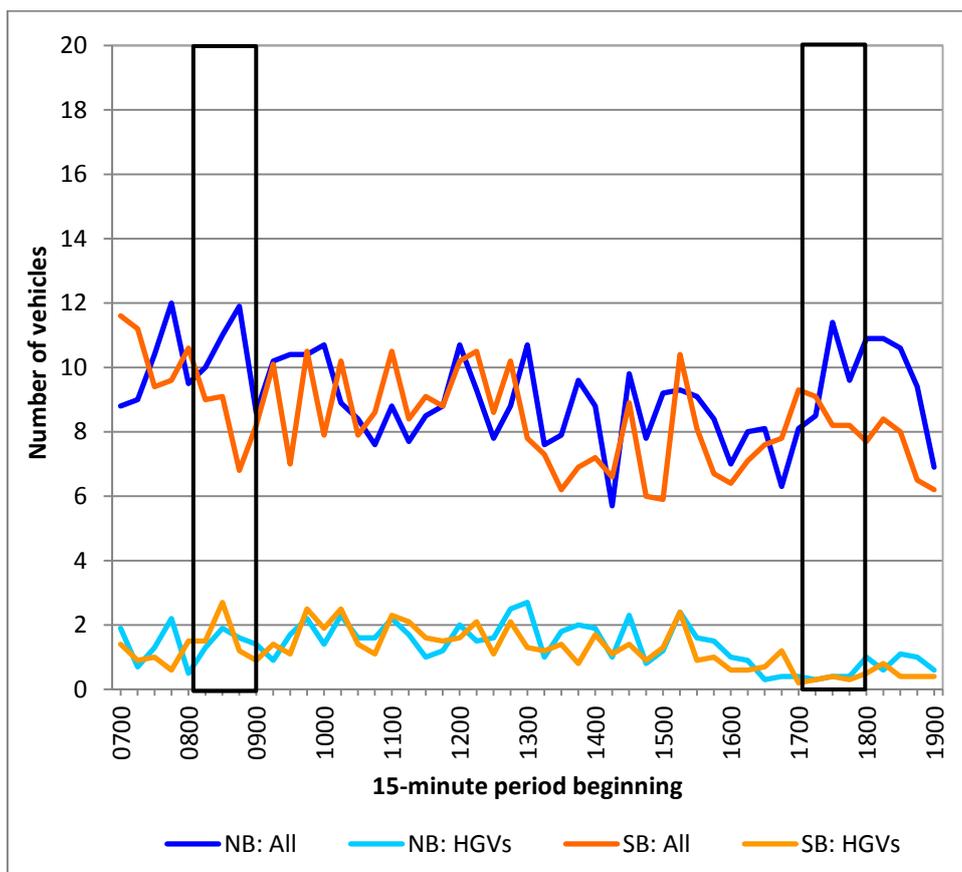
Road/route	Direction	Weekday			Weekend (13:00-14:00)
		AM peak (08:00-09:00)	Inter-peak (12:00-13:00)	PM peak (17:00-18:00)	
Abbey Lane / High Street (A118) junction on carriageways					
High Street (northeast side)	Northeastbound	52	17	153	43
	Southwestbound	212	28	65	34
Abbey Lane	Southeastbound	17	2	10	33
	Northwestbound	8	4	5	1
High Street (southwest side)	Southwestbound	209	30	65	4
	Northeastbound	58	17	158	45

- 25.4.95 The cyclist surveys along the construction traffic routes in the vicinity of the site indicate that:
- a. There are high cyclist flows on High Street (A118) which indicates that this road is used for cycle commuter journeys in the AM and PM peak periods.
 - b. High Street (A118) at the High Street (A118)/ Abbey Lane junction is well used by cyclists in both directions in the AM and PM peak periods; with some cyclists using the pedestrian controlled crossings
 - c. Abbey Lane between the High Street (A118)/ Abbey Lane junction and Gay Lane is generally not well used by cyclists in both directions in the AM and PM peak periods; with low flows recorded in both directions
 - d. Bisson Road across the Prescott Channel has approximately 26 cyclists (in total) in the AM peak hour and 17 cyclists in the PM peak hour.

Traffic flows

- 25.4.96 ATC data have been analysed to identify the existing traffic flows along Abbey Lane south of Britten Court. The weekday vehicle and HGV flows for a 12-hour period (07:00 to 19:00) are shown in Plate 25.4.4. Weekday flows are presented as this is when the greatest impacts from the project are likely to be experienced.

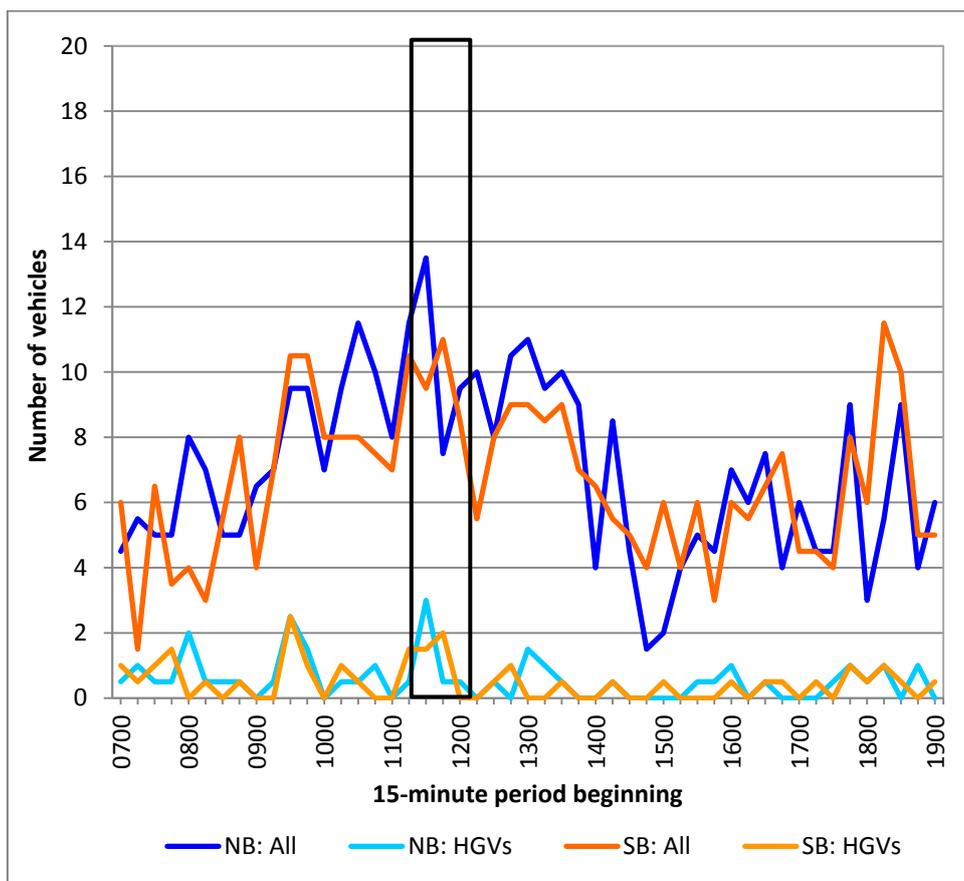
Plate 25.4.4 Existing weekday traffic flow along Abbey Lane



NB – Northbound, SB – Southbound. The black box represents the peak hour traffic flows used for the traffic assessment

- 25.4.97 The weekday ATC data shows that between 08:00 – 09:00 there are approximately 78 two-way vehicle movements. The busiest 15 minute peak period in this period occurred after 08:15 with approximately 12 northbound vehicles and approximately nine southbound vehicles.
- 25.4.98 For the period between 17:00 – 18:00 there are approximately 72 two-way vehicle movements. The busiest 15 minute peak period in this period occurred after 17:30 with approximately 11 northbound vehicles and approximately eight southbound vehicles.
- 25.4.99 The period during which these ATCs were undertaken coincided with the peak vehicle activity at the Lee Tunnel site, which could account for between one and two vehicles per 15 minute peak. No Lee Tunnel vehicle movements occurred on Saturdays or Sundays during this peak period.
- 25.4.100 The Saturday vehicle and HGV flows for a 12-hour period (07:00 to 19:00) are shown in Plate 25.4.5.

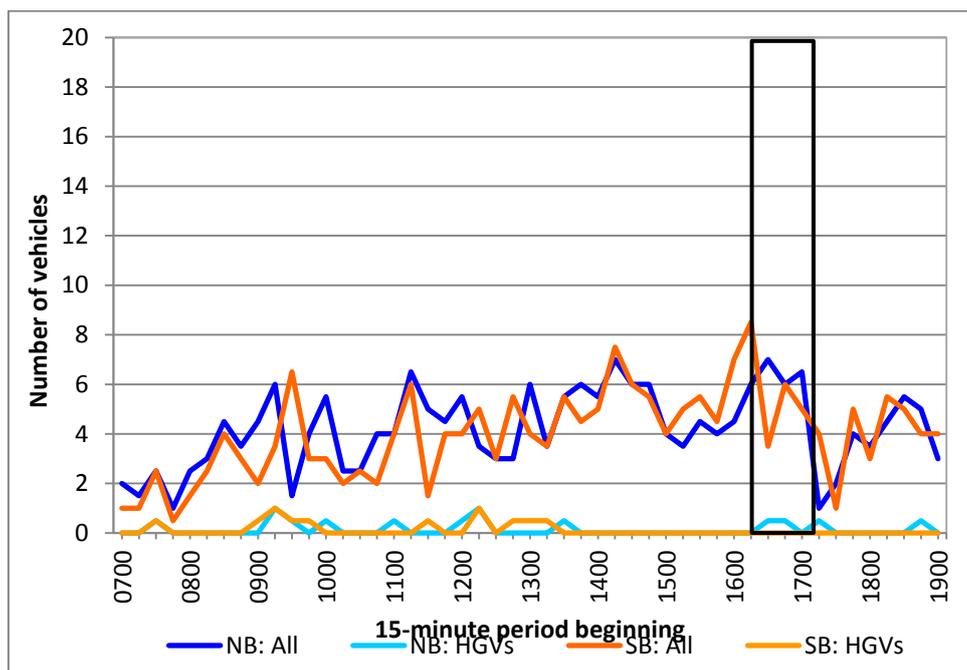
Plate 25.4.5 Existing Saturday traffic flow along Abbey Lane



NB – Northbound, SB – Southbound. The black box represents the peak hour traffic flows used for the traffic assessment

- 25.4.101 Analysis of the data showed that the Saturday peak travel period occurred between 11:15 – 12:15 with 82 two-way vehicle movements recorded. This is very slightly higher than the AM weekday two-way traffic flows and the period falls within the normal weekend construction works vehicle movements period of between 08:00 – 13:00.
- 25.4.102 The Sunday vehicle and HGV flows for a 12-hour period (07:00 to 19:00) are shown in Plate 25.4.6.

Plate 25.4.6 Existing Sunday traffic flow along Abbey Lane



NB – Northbound, SB – Southbound. The black box represents the peak hour traffic flows used for the traffic assessment

25.4.103 Analysis of the data showed that the Sunday peak travel period occurred between 16:15 – 17:15 with 49 two-way vehicle movements recorded. This is less than the AM and PM weekday two-way traffic flows and the period falls outside of the normal weekend construction works vehicle movements period of between 08:00 – 13:00.

Parking

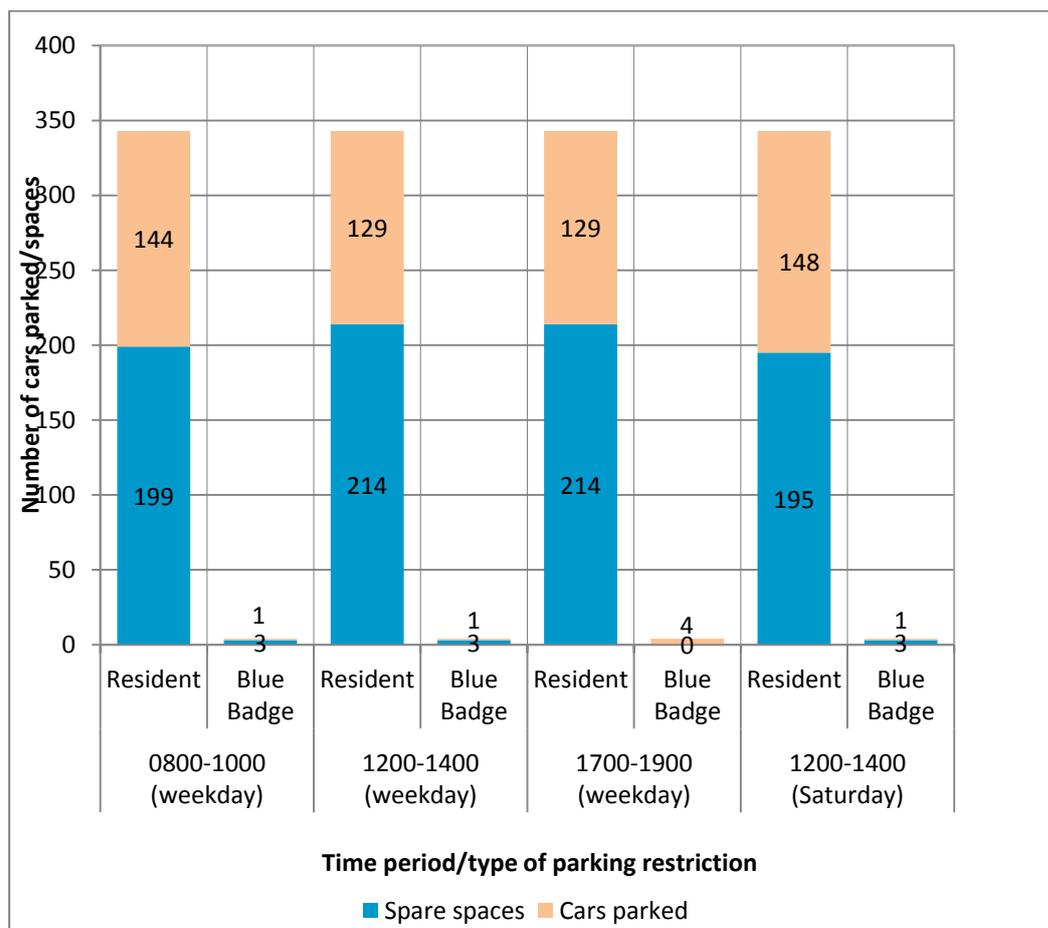
25.4.104 Table 25.4.11 shows the parking capacity available throughout a weekday and Saturday.

Table 25.4.11 Parking bay availability and usage

Location	Number and Type of Bays		No. of spaces available			
			Weekday			Saturday
			08:00-10:00	12:00-14:00	17:00-19:00	12:00-14:00
Abbey Lane	permit bays	24	8	8	8	12
	Blue Badge	1	1	1	1	0
Abbey Road	permit bays	4	2	3	3	4
Abbotsbury Close	permit bays	21	9	15	10	12
	Blue Badge	1	0	0	1	0
Bisson Road	permit bays	135	60	45	49	54
	Blue Badge	3	1	0	1	1
Claypole Road	permit bays	13	6	4	6	2
Gay Road	permit bays	4	1	3	3	3
Godfrey Street	permit bays	12	16	10	7	8
Leggatt Road	permit bays	75	19	21	24	23
	Blue Badge	1	1	0	0	1
Riverside Road	permit bays	40	17	16	14	20
Streiner Road	permit bays	15	6	4	5	10

25.4.105 Plate 25.4.7 indicates a histogram of the car parking in the area surrounding Abbey Mills Pumping Station during the AM, inter-peak, PM peaks and the weekend peak periods.

Plate 25.4.7 Existing on-street parking availability and usage



25.4.106 The results of the surveys indicate that the usage of the car parking (permit holders and blue badge) along Abbey Road, Abbey Lane, Abbotsbury Close, Bisson Road, Claypole Road, Gay Road, Godfrey Street, Leggatt Road, Riverside Road and Streiner Road is medium, with approximately an average of 60% spare capacity available on both weekdays and at weekends during the peak and off-peak periods.

25.4.107 The results of the surveys show that the greatest demand for parking within the vicinity of the site occurs at the weekend, between 12:00 and 14:00. Overall, the results indicate that there are a number of available spaces during the time periods surveyed.

Local highway modelling

25.4.108 It was agreed with TfL and the LB of Newham that no modelling would be required for this site. This is based on the fact that the local highway network, including the junction of Abbey Lane and High Street (A118), currently operates satisfactorily including the use of construction vehicles and worker parking of the Lee Tunnel site.

Accident analysis

- 25.4.109 Accident data within the vicinity of the site has been obtained from TfL and analysed to determine if there are any specific road safety issues, trends or patterns evident on the surrounding highway network.
- 25.4.110 Data has been obtained for a five year period to March 2011. Figure 25.4.5 in the Abbey Mills Pumping Station Transport Assessment Figures indicates the accidents that have occurred within the vicinity of the site. The following roads and junctions have been analysed:
 - a. Stratford High Street (A118)
 - b. Stratford High Street (A118) / Abbey Lane
 - c. Stratford High Street (A118) / Carpenters Road
 - d. Carpenters Road/ Jupp Road.
- 25.4.111 Table 25.4.12 indicates the accidents that occurred in the vicinity of the site. Appendix C provides a full analysis of the accidents.

Table 25.4.12 Accident severity from 2006 to 2011

Location	Slight	Serious	Fatal	Total
High Street	15	2	1	18
High Street/ Abbey Lane Junction	21	1	0	22
High Street/ Livingstone Road Junction	4	2	0	6
High Street/ Carpenters Road Junction	16	0	0	16
High Street/ Sugar House Lane Junction	6	1	0	7
High Street/ Rick Roberts Way Junction	9	1	0	10
High Street/ Marshgate Lane Junction	7	0	0	7
High Street/ Wise Road Junction	7	0	0	7
High Street/ Blaker Road Junction	2	0	0	2
Carpenters Road/ Jupp Road Junction	3	0	0	3
Total	90	7	1	98

- 25.4.112 A total of 98 road traffic accidents occurred in the area of interest. Of these accidents, 90 were classified as slight, seven were serious and one accident was fatal.
- 25.4.113 The one fatal accident occurred along High Street (A118), 110m southwest of the Sugar House Lane junction and which involved a pedestrian crossing the road from the nearside and being struck by a moving car. The accident was reported as being caused by the pedestrian failing to look properly and failing to judge the vehicle's path or speed.
- 25.4.114 The majority of the accidents occurred at the High Street (A118) / Abbey Lane junction. The highest number of serious accidents occurred along High Street (A118) and at the junction of High Street (A118) and Livingstone Road.
- 25.4.115 Of the total accidents, three accidents involved LGVs and three Other Goods Vehicles (OGV), of which the accidents involving LGVs led to slight accidents and the accident involving OGVs led to two serious and one slight accident.
- 25.4.116 There are two areas of significant clustering of accidents in the locations discussed which are the High Street (A118) / Abbey Lane and High Street (A118) / Carpenters Road junctions where vehicle/pedestrian paths cross. In these cases vehicle accidents are relatively evenly spread around the junction suggesting that accidents are not due to highway geometry.
- 25.4.117 Overall, of the accidents that occurred in the area of interest were mainly caused by vehicle/ pedestrian paths crossing or not looking properly which resulted from careless/ reckless driving and failure to judge other person's path or speed. This indicates that the accidents are not due to highway geometry or poor infrastructure.
- 25.4.118 In the case of pedal cycles, it was generally identified that accidents were caused by carelessness or following vehicles too closely.
- 25.4.119 625.4.8 in the Abbey Mills Pumping Station Transport Assessment Figures shows the pedestrian and cyclist accidents by severity.
- 25.4.120 The records show that there were 26 accidents involving pedestrians and cyclists. Inspection of the data showed that 24 of these occurred on High Street (A118) and appeared to have occurred at junctions with signalised control facilities, or at locations where central barriers or railings are provided to prevent pedestrians crossing the road.
- 25.4.121 In the context of the HGV movements associated with the Abbey Mills Pumping Station site, the accident risk to these modes of travel would be managed by providing pedestrian and cyclist awareness training for commercial drivers associated with the construction works as set out in the *Construction Management Plan*. For sections of road affected by roadworks, the risk to all

road-users will be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works (DfT, 2009)³.

25.5 Construction assessment

25.5.1 The Abbey Mills Pumping Station site TA, including both qualitative and quantitative assessment, has been undertaken drawing on discussions with TfL and the Local Highway Authorities, knowledge of the transport networks and their operational characteristics in the vicinity of each site and the anticipated construction programme, duration and levels of construction activity.

Construction base case

25.5.2 As described in Section 25.3, the construction assessment year for transport effects in relation to this site is Site Year 2 of construction.

Pedestrians and cyclists

25.5.3 There are no proposals to change the cycle or pedestrian network by Site Year 2 of construction and the construction base case for these networks is therefore the same as indicated in the baseline description in Section 25.4.

Public transport

25.5.4 The TfL Upgrade Plan envisages a combined increase in capacity on the Circle and Hammersmith & City Line of 65% although it is clear that a significant proportion of this increase is attributed to the revised service patterns implemented in 2009, which will already be reflected in the baseline data. A 24% increase in capacity is anticipated on the District Line and there are no proposals to increase capacity or reduce journey time on the Central Line. Furthermore, at the time of assessment there are no confirmed plans to amend the DLR network or National Rail services within the area.

25.5.5 There are further capacity improvements anticipated on the Bakerloo, Piccadilly and Central Lines, however, the best way of delivering these improvements, including the timescales, are currently being investigated by TfL. Services on this part of the Overground network are not expected to change.

25.5.6 It is anticipated that patronage on public transport services may change between the baseline situation and Site Year 2 of construction. Future patronage changes on bus and rail will be driven by a range of complex factors and there are inherent uncertainties in setting a patronage level for a future year.

25.5.7 Therefore, in order to ensure that a busiest case scenario is addressed in assessing the result of additional construction worker journeys by public transport, the capacity for public transport

services in the construction base case has been assumed to remain the same as capacity in the baseline situation. This ensures a robust assessment.

Highway network and operation

- 25.5.8 It has been agreed with TfL and the LB of Newham that no modelling would be required for this site and the works at the Abbey Mills Pumping Station site would not affect the highway network layout or operation.
- 25.5.9 Strategic highway network modelling has been undertaken at a project-wide level using the TfL HAMs, which include forecasts of employment and population growth in line with the London Plan⁴.

Construction development case

- 25.5.10 This section summarises the findings of the assessment undertaken for the peak year of construction at the Abbey Mills Pumping Station site (Site Year 2 of construction).

Pedestrian routes

- 25.5.11 During construction at the Abbey Mills Pumping Station site, there would be no changes made to the pedestrian network as no diversions would be necessary. This approach is consistent with the approach adopted for the Lee Tunnel works at Abbey Mills Pumping Station, which is of a similar scale and has similar access requirements to the Thames Tideway Tunnel construction work at this site.
- 25.5.12 The highway layout during construction plans (areas 1 and 2) are provided in the Abbey Mills Pumping Station site Transport Assessment Figures and show the effect on the pedestrian footways during construction.
- 25.5.13 To assess a busiest case scenario, it has been anticipated that all worker trips would finish their journeys by foot. As a result the 45 worker trips generated by the site have been added to the construction base case pedestrian flows during the AM and PM peak hours
- 25.5.14 The assessment assumes that all construction workers would travel in the peak hours. The increase in pedestrian numbers against baseline usage during the peak hours due to construction workers walking is considered to be a conservative estimate because, due to the site working start and finish times, many workers will be travelling outside of peak network hours.
- 25.5.15 As pedestrians would have to cross the site access on Gay Road, this has the potential to introduce additional pedestrian delay. However, as this is an existing access and the number of construction vehicles movements is expected to be low any delay in crossing the site access would be small and would affect only a small number of pedestrians. This would result in a negligible

impact on pedestrian delay for those walking along the southern side of Gay Road.

- 25.5.16 Given that there are no pedestrian diversions the impact on pedestrian amenity would be negligible.
- 25.5.17 With regard to accidents and safety; while pedestrians are not required to make any additional road crossings there would be an increase in construction traffic flow of greater than four but less than 20 two-way HGV movements per hour. This represents a very low risk to pedestrians.
- 25.5.18 During all construction work and on any section of road subject to temporary diversions or restrictions imposed by road works associated with the Abbey Mills Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works (DfT, 2009)⁵. This will include compliance with the Equality Act 2010⁶ to ensure safe passage for mobility and vision impaired pedestrians.

Cycle routes

- 25.5.19 There would be an increase in construction vehicles on Abbey Lane which is a designated cycle route. This would increase the potential for cyclist and vehicle conflicts, particularly where cyclists have to cross the site access point. Signage would however be provided on Abbey Lane to make drivers of large vehicles aware of the presence of cyclists. The number of construction vehicle movements at the Abbey Mills Pumping Station site would be relatively low and therefore the additional risk to cyclists would be small.
- 25.5.20 As there would be no diversions of cycle routes, the site access would not be directly onto a cycle route and typical cycle flows on this route (Gay Road) are low.
- 25.5.21 Construction vehicles serving the site will comprise a range of sizes and types, including light vans, rigid bodied vehicles and longer articulated vehicles. At this site the majority of the vehicles are expected to be medium or heavy rigid bodied goods vehicles.
- 25.5.22 Works would include the following measures affecting cyclists:
- a. provision of a safe crossing point for pedestrians and cyclists at the site access
 - b. provision of signage for all diversions to clearly identify alternative routes during enabling works and construction at the site.
- 25.5.23 During all construction work and on any section of road subject to temporary diversions or restrictions imposed by roadworks associated with the Abbey Mills Pumping Station site, the risk to all road-users would be managed by the contractor(s) in accordance

with the provisions made under the Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works (DfT, 2009)⁷. This would include compliance with TfL guidance (Cyclists at Roadworks – Guidance [DfT, 1999]⁸) to ensure safe passage for cyclists.

Bus routes and patronage

- 25.5.24 No bus services run immediately past the site and therefore bus routes in the area would not be directly affected by the construction works at the Abbey Mills Pumping Station site. However, additional construction vehicles serving the site may affect bus journey times on High Street (A118).
- 25.5.25 The assessment of the local highway conditions indicates that the vehicular traffic generated by the Abbey Mills Pumping Station site would result in an increase of only 1% in the traffic flow through the junction of High Street (A118) and Abbey Lane. Additionally, construction vehicles right-turning into Abbey Lane would not delay buses routing eastbound through the junction along High Street (A118) because there is a separate lane for vehicles turning right into Abbey Lane from High Street (A118). There would therefore be a negligible impact on road network delay for buses.
- 25.5.26 It is expected that approximately four additional two-way worker trips would be made by bus during the AM and PM peak hours, which would result in less than one worker trip per bus (based on a service of 88 buses during the AM peak hour and 94 buses during the PM peak hour within a 640m walking distance of the site).
- 25.5.27 On this basis the additional worker trips made by bus in peak hours would be capable of being accommodated on the base case bus services and would typically be within the normal daily variation in bus patronage on these routes.

Rail services and patronage

- 25.5.28 Although there are no rail stations within 960m of the site, it is anticipated that there would be approximately nine construction workers and labourers would use London Underground, London Overground, DLR or National Rail services to access the site.
- 25.5.29 Because of the large number of London Underground, DLR, London Overground and National Rails services available from the rail stations in the vicinity of the site, the additional construction worker rail journeys could be accommodated on the base case rail services and would not represent a significant change.

Parking

- 25.5.30 The highway layout during construction (areas 1 and 2) plans are provided in the Abbey Mills Pumping Station Transport Assessment Figures show the proposed suspension and extended parking restrictions associated with the construction works at the Abbey Mills Pumping Station site.

25.5.31 There is on-street residential and blue badge parking on a number of roads within the vicinity of the site including Abbey Lane, Gay Road and Bisson Road. Suspension of approximately 18 parking bays would be required on Abbey Lane together with the extension of single yellow line restrictions and the inclusion of double yellow lines, to aid larger construction vehicles accessing the site and passing the central island on Abbey Lane. The proposed parking suspensions and alterations to the single and double yellow line restrictions along Abbey Lane are consistent with the current restrictions implemented for the Lee Tunnel works and would be as follows:

- a. provision of approximately 17m of double yellow lines, southeast of Godfrey Street
- b. suspension of approximately one parking bay and the provision of single yellow line restriction, southeast of Godfrey Street
- c. extension of single yellow line parking restrictions hours of operation, northwest of the Abbey Lane / Abbotsbury Close junction
- d. provision of approximately 15m of double yellow lines at the Abbey Lane / Abbotsbury Close junction
- e. suspension of approximately five parking bays and the provision of single yellow line restriction, southeast of Abbey Lane / Abbotsbury Close junction
- f. suspension of approximately four parking bays and the provision of single yellow line restriction, east of Abbey Lane / Abbotsbury Close junction
- g. suspension of five parking bays and the provision of single yellow line restriction, west of Britten Court
- h. suspension of approximately three parking bays and the provision of single yellow line restriction, southeast of Britten Court.

25.5.32 This level of parking suspension is in line with the mitigation adopted for the Lee Tunnel works at Abbey Mills Pumping Station, which is of a similar scale to the Thames Tideway Tunnel construction work at this site and uses similar construction vehicles.

25.5.33 The assessment of parking capacity demonstrates that there would be spare capacity available within 200m of the site to accommodate the demand displaced by the changes to parking provision.

Highway assessment

Highway layout

- 25.5.34 The highway layout during construction plans (areas 1 and 2) are provided in the Abbey Mill Pumping Station Transport Assessment Figures. There are no proposals to alter the layout of the existing highway network during construction works at the site. The site would be accessed from Gay Road via Abbey Lane and Stratford High Street (A118). There would be a gated access for the left-turn in / right turn out from the site onto Gay Road. This approach is consistent with the approach adopted for the Lee Tunnel works at Abbey Mills Pumping Station, which is of a similar scale to the Thames Tideway Tunnel construction work at this site.
- 25.5.35 Construction lorry movements would be limited to the day shift only (08:00 to 18:00 on weekdays and 08:00 to 13:00 on Saturdays).
- 25.5.36 The highway layout during construction (areas 1 and 2) vehicle swept path analysis plans are provided the Abbey Mills Pumping Station Transport Assessment Figures and show that the construction vehicles expected to require access to the site would be able to safely enter and leave the site in forward gear.

Highway network

- 25.5.37 Construction lorry movements would be limited to the day shift only (08:00 to 18:00). In exceptional circumstances HGV and abnormal load movements could occur up to 22:00 for large concrete pours and later at night on agreement with the LB of Newham.
- 25.5.38 Table 25.2.4 in Section 25.2 shows the vehicle movement assumptions for the local peak traffic periods based on the peak months of construction activity at this site.
- 25.5.39 Table 25.2.4 shows an average peak flow of 224 vehicle movements a day is expected during the months of greatest activity during Site Year 2 of construction at this site. At other times in the construction period vehicle flows would be lower than this average peak figure.
- 25.5.40 It is anticipated that along Stratford High Street (A118) and Abbey Lane there would be an additional 14 two-way HGV movements per hour as a result of the construction at the Abbey Mills Pumping Station site. It is anticipated that the impact on accidents and safety would be low based on the expectation that the site would generate a construction traffic flow of greater than four but less than 20 two-way HGV movements per hour.
- 25.5.41 It is anticipated that one hazardous load would arrive at the site every other week, which would again be a low risk.
- 25.5.42 The assessment of the local highway conditions indicates that the Abbey Mills Pumping Station site would generate a percentage increase of only 1% in the traffic flow at the junction of Stratford

High Street (A118). Given this small change in traffic flows and the spare capacity available in the network, the impact on road network delay would be negligible.

- 25.5.43 It was agreed with TfL and the LB of Newham that, as the scale of the Lee Tunnel construction work at the Abbey Mills Pumping Station site is similar to that expected for the Thames Tideway Tunnel work at this site, no modelling would be required for this site. The Lee Tunnel construction works currently taking place at this Abbey Mills Pumping Station site generates an average peak hourly flow of five vehicles (ten movements) per hour along Abbey Lane and through the junction with Stratford High Street (A118). This compares with the average peak hourly flow of seven vehicles (14 movements) per hour for the Thames Tideway Tunnel proposals.
- 25.5.44 The *Project-wide Transport Assessment* explains the method used to assign construction traffic to the HAMs, from which the likely changes in turning movements at local junctions have been identified and added to the construction base case flows.
- 25.5.45 The assignment of construction lorry trips for other Thames Tideway Tunnel sites has been undertaken using OmniTrans^{iv} software, which enables a fixed assignment to be created for these trips in order to ensure that they are assigned only to the proposed construction routes. The OmniTrans outputs also identify lorry traffic which would be associated with the Abbey Mills Pumping Station site, or with other Thames Tideway Tunnel project sites, that would use routes in the vicinity of the Abbey Mills Pumping Station site. Figure 11.5.1 in the Abbey Mills Pumping Station Transport Assessment Figures shows the OmniTrans plot for the local road network around the Abbey Mills Pumping Station site. It is anticipated that along Bow Road (A11) there would be an additional seven two-way HGV movements per hours as a result of the construction at Abbey Mills Pumping Station, but there would be no other HGV movements during the peak hour associated with other Thames Tideway Tunnel sites passing along Bow Road (A11) during Site Year 1 of construction at the Abbey Mills Pumping Station site. The effect of this on accidents and safety is deemed negligible.

Construction mitigation

- 25.5.46 The project has been designed to limit the issues arising on transport networks as far as possible and many measures have been embedded directly in the design of the project. These are

^{iv} OmniTrans is a software package used for multi-modal transport network modelling and in this case has been used to produce assignments of construction traffic across the proposed network of routes to be used for the project.

summarised in Table 25.5.1. No additional measures are proposed for transport and therefore there is no mitigation identified for the construction phase.

Table 25.5.1 Abbey Mills Pumping Station site design measures

Phase	Issues	Design measures
Construction	Creating access point	Creation of a left-in/ right-out site access for construction traffic
	Safe passage for pedestrians and cyclists	Provision of a safe crossing point for pedestrians and cyclists at the site access Provision of hoarding to segregate the site from public footpath and vehicular traffic.
	Street parking	Suspension of approximately 18 parking bays on Abbey Lane Extension of hours of operation of single yellow line parking restriction Provision of double yellow lines at the junction of Abbey Lane and Abbotsbury Close.
	Movement of construction traffic flows on the local highway network	Providing traffic marshals at the site access to minimise conflicts with construction traffic.

25.5.47 These embedded measures, discussed in Section 25.2, have been taken into account in the assessment. The outcomes indicate that with these measures in place the changes to be expected in the transport networks are not significant and therefore no additional measures are required for the construction phase.

25.6 Operational assessment

25.6.1 This section summarises the findings of the assessment undertaken for Year 1 of operation at the Abbey Mills Pumping Station site.

25.6.2 The assessment of the operational phase is therefore limited to the physical issues associated with accessing the site from the highway network as outlined in Section 25.2. This has been discussed with the TfL and LB of Newham.

Operational base case

- 25.6.3 The operational as assessment year for transport is Year 1 of operation.
- 25.6.4 As explained in para. 25.2.52, the elements of the transport network that would be affected during operation are parking, highway layout and operation. For the purposes of the operational base case, it is anticipated that the highway layout and operation will be as indicated in the construction base case.

Operational development case

- 25.6.5 The operational development case for the site includes any permanent changes in the vicinity of the Abbey Mills Pumping Station site as a result of the Thames Tideway Tunnel project and takes into consideration the occasional maintenance activities required at the site.
- 25.6.6 As outlined in Section 25.2, during the operational phase, Abbey Mills Pumping Station would be reinstated to the current layout.
- 25.6.7 The transport demands created by the development in the operational phase would be extremely low and limited to occasional maintenance visits every three to six months and larger cranes required for access to the shaft and tunnel every ten years.
- 25.6.8 The operational assessment has taken into consideration those elements that would be affected, which comprise the short-term changes to the highway layout and operation when maintenance visits are made to the site.
- 25.6.9 The permanent highway layout plans (areas 1 and 2) are provided in the Abbey Mill Pumping Station Transport Assessment Figures and indicates the operational phase permanent works.

Highway layout and operation

- 25.6.10 For routine three or six monthly inspections vehicular access would be required for light commercial vehicles, typically a van-type vehicle. The same vehicles would be used for inspections for the Lee Tunnel, at the same visit. On occasion there may be a consequent need for small flatbed vehicles to access the site.
- 25.6.11 For these inspections, the Abbey Mills Pumping Station site would be accessed via Gay Road.
- 25.6.12 During the ten-yearly inspections, space to locate two large cranes within the site area would be required. The cranes would facilitate the lowering and recovery of tunnel inspection vehicles and provide duty/standby access for personnel. To assess the effect of these on the highway layout, swept paths have been undertaken for the largest vehicles, including 11.36m mobile cranes, a 10m rigid vehicle and a 10.7m articulated vehicle. The permanent highway layout (areas 1 and 2) vehicle swept path analysis plans are

provided in the Abbey Mill Pumping Station Transport Assessment Figures and show safe access/ egress at the site for the operational phase.

- 25.6.13 When larger vehicles are required to service the site, there may be some temporary, short-term delay to other road users while manoeuvres are made. However, it is anticipated that the arrival of large vehicles would normally be scheduled to take place outside of the peak hours to minimise the effect on the local highway network.
- 25.6.14 Due to the infrequent nature of maintenance trips there is anticipated to be no significant change to the surrounding highway network during the operational phase at Abbey Mills Pumping Station.

Operational mitigation

- 25.6.15 Due to there being no significant changes to transport during the operational phase, no mitigation is required.

25.7 Summary of site-specific Transport Assessment

- 25.7.1 The outcomes of this *TA* demonstrate the key findings indicated in Table 25.7.1.

Table 25.7.1 Abbey Mills Pumping Station Transport Assessment results

Phase	Mode of transport	Key findings	
Construction	Pedestrians	Pedestrian access within the Abbey Mills Pumping Station would be changed for construction phases.	
	Cyclists	No change to cycle network in vicinity of the site.	
	Bus patronage and operators	No change to bus services in vicinity of the site.	
	London Underground and National Rail patronage	No change to LUL network and National Rail in vicinity of the site.	
	River passenger services and patronage	No change to river passenger services and patronage in vicinity of the site.	
	River navigation	No change to river navigation in vicinity of the site.	
	Parking	Suspension of approximately 17 parking bays would be required on Abbey Lane together with the extension of single yellow line restrictions and the inclusion of double yellow lines.	
	Highway network and operation	No change to highway network and operation in vicinity of the site.	
	Operation	Parking	No change to parking in the vicinity of the site.
		Highway layout and operation	No change to Highway Layout and operation during operation phase

References

¹ Transport for London, *Travel Planning for new development in London*, Transport for London (2011).

² Transport for London, *Transport Assessment Best Practice Guidance*, 2010.

³ Department for Transport (DfT), *Traffic Signs Manual Chapter 8 - Traffic Safety Measures and Signs for Road Works and Temporary Situations*, 2009.

⁴ Greater London Authority, *The London Plan*, 2011.

⁵ Department for Transport, 2009. See citation above.

⁶ HM Government, *Equality Act 2010 – Guidance*, 2010.

⁷ Department for Transport, 2009. See citation above.

⁸ DfT, *Traffic Advisory Leaflet 15/99 Cyclists at Road Works*, December 1999.

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.22**

Abbey Mills Pumping Station

Appendices

APFP Regulations 2009: Regulation **5(2)(q)**

Hard copy available in

Box **53** Folder **B**
January 2013

**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

This page is intentionally blank

Thames Tideway Tunnel

Transport Assessment

Section 25 Appendices: Abbey Mills Pumping Station

List of contents

	Page number
Appendix A : Policy review	1
A.1 Introduction.....	1
A.2 National Policy.....	1
A.3 Regional policy	3
A.4 Local policy.....	6
Appendix B : PTAL analysis	11
Appendix C : Accident Analysis	14
C.1 Existing Highway Safety Analysis.....	14
C.2 Summary and conclusion	16
Appendix D : Road Safety Audit	17

List of tables

	Page number
Table C.1 Accident severity 2006 to 2011	14

This page is intentionally blank

Appendix A: Policy review

A.1 Introduction

- A.1.1 There are a number of documents containing planning policies that are relevant to transport matters for the proposed development at Abbey Mills. This includes national, regional and local policies relevant to the site.
- A.1.2 This section reviews current documents relevant to the proposed development which is situated within the Borough of Newham.

A.2 National Policy

National Planning Policy Framework (March 2012)

- A.2.1 The Department for Communities and Local Government published the National Planning Policy Framework (NPPF) in March 2012. The NPPF replaces a variety of existing planning guidance, most notable the following document, Planning Policy Guidance 13: Transport (November 2010).
- A.2.2 The key objective of the NPPF is to create a policy context to support economic growth. The principle of the guidance is to place an emphasis on sustainable development, where environmental conditions should be considered alongside economical and social matters.
- A.2.3 It outlines the importance of local development plans and notes that where development accords with an up to date development plan then the proposals should be approved. Moreover, it suggests that local authorities should follow the approach of the presumption in favour of sustainable development.
- A.2.4 With particular reference to transport matters the documents states:
“In preparing local plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, and facilitates the use of sustainable modes of transport.”
- A.2.5 The guidance goes on to advise at paragraph 32:
“All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:
- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
 - safe and suitable access to the site can be achieved for all people; and*
 - improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport*

grounds where the residual cumulative impacts of development are severe.”

A.2.6 The document also states that:

“Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people”. Therefore:

“A key tool to facilitate this would be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan”.

National Policy Statement for Waste Water (March 2012)

A.2.7 The National Policy Statement for Waste Water was published by the Department of Environment, Food and Rural Affairs in March 2012. This National Policy Statement (NPS) sets out Government policy for the provision of major waste water infrastructures. The NPS does not recognise the Thames Tideway Tunnel project within the original thresholds which is contained within the Planning Act. However the document indicates that *“the Government has already stated its intention that the project should be considered at a national level”.*

A.2.8 The Secretary of State announced that development consent for the Thames Tideway Tunnel project should also be dealt with under the regime for nationally significant infrastructure projects under the Planning Act 2008.

A.2.9 The Waste Water NPS seeks a sustainable long term solution to address the untreated sewage discharged into the river Thames and Thames Tideway Tunnel project has been considered as the preferred solution.

A.2.10 With particular reference to transport matters the document states:
“The ES should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport (DfT), or any successor to such methodology. Applicants should consult the Highways Agency and/or the relevant highway authority, as appropriate, on the assessment and on mitigation measures. The assessment should distinguish between the construction, operation and decommissioning project stages as appropriate”.

A.2.11 The document states that the impacts on the surrounding transport infrastructure should be mitigated and where the mitigation measures are not sufficient the requirements to mitigate adverse impacts on transport networks should be considered.

A.2.12 Therefore it is advised to prepare a travel plan which includes demand management measures to mitigate transport impacts, and *“to provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts”.*

A.2.13 The Waste Water NPS prefers water-borne or rail transport over road transport and where there is likely to be substantial HGV traffic, the following measures should be looked:

- *“control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements;*
- *make sufficient provision for HGV parking, either on the site or at dedicated facilities elsewhere, to avoid ‘overspill’ parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and*
- *ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force”.*

A.2.14 The proposed development is located at a relatively moderate accessible transport hub and the proposed location has a Public Transport Accessibility Level (PTAL) rating of 3, rated as ‘moderate’. It is assumed that construction workers would not travel by car to and from the site on the basis that there would be no worker parking on site; on-street parking in the area is restricted; and site-specific Travel Plan measures will discourage workers from travelling by car. Information regarding the travel arrangements of the workers associated with the site will be included in the *Draft Project Framework Travel Plan* which accompanies this application.

A.3 Regional policy

The London Plan (July 2011)

A.3.1 The London Plan 2011 is produced by the Greater London Authority (GLA) and sets out the strategic planning guidance for London planning authorities. The Mayor of London is responsible for strategic planning and the production of a Spatial Development Strategy called The London Plan. The London plan sets out the integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. The Plan takes the year 2031 as its formal end date and its over-arching vision is supported by six detailed objectives for London:

- A city that meets the challenges of economic and population growth;
- An internationally competitive and successful city;
- A city of diverse, strong, secure and accessible neighbourhoods;
- A city that delights the senses;
- A city that becomes a world leader in improving the environment; and
- A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities.

A.3.2 The last objective of the plan relates specifically to transport. Policies within the London Plan of relevance to the proposed development are outlined as follows:

- A.3.3 **Policy 6.1 – Strategic Approach** advises that the mayor will work with all relevant partners to encourage the closer integration of transport and development by:
- Encouraging patterns and nodes of development that reduce the need to travel, especially by car;
 - Seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greater demand;
 - Supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvement;
 - Seeking to increase the use of the Blue Ribbon Network, especially the Thames, for passenger and freight use;
 - Facilitating the efficient distribution of freight whilst minimising its impacts on the transport network;
 - Supporting measures that encourage shifts to more sustainable modes and appropriate demand management; and
 - Promoting greater use of low carbon technology so that carbon dioxide and other contributors to global warming are reduced.
- A.3.4 **Policy 6.2 – Providing public transport capacity and safeguarding land for transport** which notes that development proposals that do not provide adequate safeguarding for the schemes should be refused.
- A.3.5 **Policy 6.3 – Assessing effects of development on transport capacity** outlines that development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed. Development should not adversely affect safety on the transport network. Where existing transport capacity is insufficient for the travel generated by proposed developments, and no firm plans exist for an increase in capacity, boroughs should ensure that the development proposals are phased until it is known that these requirements can be met. The policy notes that the use of Travel Plans and addressing freight issues can help reduce the impact of development on the transport network.
- A.3.6 **Policy 6.7 – Better streets and surface transport** notes that high levels of priority should be provided to bus routes and there should be direct, secure, accessible and pleasant walking routes to stops. The development would include provision of transport to and from public transport nodes where sites are at a distance from public transport services.
- A.3.7 **Policy 6.9 – Cycling** presents measures to increase cycling mode share in London to 5 percent by 2026. Measures include completing the Cycle Super Highways and expanding the London cycle hire scheme. To support this, developments should provide cycle parking to at least the minimum standards, provide showers and changing facilities and facilitate the major cycling schemes in London (Super Highways / Cycle Hire).

- A.3.8 **Policy 6.10 – Walking** recommends the use of shared space principles with simplified streetscape, de-cluttering and access for all. Developments should therefore ensure high quality pedestrian environments and emphasise the quality of pedestrian and street space. It points to the ‘Legible London’ pedestrian wayfinding system as a successful measure to support walking journeys.
- A.3.9 **Policy 6.13 – Parking** outlines the need to seek an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. As such, car parking should reduce as public transport accessibility (measured by PTAL) increases. The policy advises that Transport assessments and travel plans for major developments should give details of proposed measures to improve non-car based access, reduce parking and mitigate adverse transport impacts.
- A.3.10 **Policy 6.14 – Freight** notes that freight distribution should be improved and movement of freight by rail and waterway should be promoted. To support this, developments that generate high number of freight movements should be located close to major transport routes. In addition, the Freight Operators Recognition Scheme, construction logistics plans and delivery and servicing plans should be promoted. The policy also advises the increase in the use of the Blue Ribbon Network for freight transport.

The Mayors Transport Strategy (GLA, 2010)

- A.3.11 In addition to the London Plan, the Mayor has prepared a number of strategies that are essentially an extension of the London Plan. Published by the GLA in 2010, the Mayor’s Transport Strategy (MTS) (Greater London Authority, May 2010) envisages *“London’s Transport system excelling among that of global cities, providing access to opportunities for all people and enterprises while achieving the highest environmental standards and leading the world in its move towards tackling the urban transport challenges of the 21st century”*.
- A.3.12 The MTS sets out a number of policy commitments or requirements which have implications for TfL and a range of other delivery partners including the GLA and the London boroughs. The policies that are relevant to the proposed development are:
- **Policy 4** indicating that the Mayor will seek *“to improve people’s access to jobs, business’ access to employment markets, business to business access, and freight access by seeking to ensure appropriate transport capacity and connectivity is provided on radial corridors into central London”*;
 - **Policy 5** seeks *“to ensure efficient and effective access for people and goods within central London”*;
 - **Policy 8** supports *“a range of transport improvements within metropolitan town centres for people and freight that help improve connectivity and promote the vitality and viability of town centres, and that provide enhanced travel facilities for pedestrians and cyclists”*;

- **Policy 9** states that the Mayor “*will use the local and strategic development control processes*”;
- **Policy 11** specifies that the Mayor will “*encourage the use of more sustainable, less congesting modes of transport, set appropriate parking standards, and aim to increase public transport, walking and cycling mode share*”;
- **Policy 12** states that the Mayor “*will seek to improve the distribution of freight through the provision of better access to/from Strategic Industrial Locations, delivery and servicing plans, and other efficiency measures across London*”; and
- **Policy 15** and **Policy 16** indicate that the Mayor will seek to reduce emissions of air pollutants and noise impacts from transport respectively.

A.3.13 The *London Freight Plan, Sustainable Freight Distribution: a Plan for London* (TfL, June 2008) sets out the steps that have to be taken over the next five to ten years to identify and begin to address the challenge of delivering freight sustainably in the capital. Principles set in that document are expected to be relevant to the consideration of the construction logistics strategy for the proposed development.

A.4 Local policy

A.4.1 The London Borough of Newham has a number of policies relevant to transport within the Unitary Development Plan (UDP), Local Development Framework (LDF) and Supplementary Planning Documents (SPDs).

Unitary Development Plan (LB Newham, 2001)

A.4.2 The UDP was adopted by the London Borough of Newham in June 2001 with only certain policies ‘saved’ from September 2007 and will remain until adopted policies in Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs) within the LDF replace them. It is a technical town planning document that acts as a land use strategy document and also sets out policies that planning applications will be considered against.

A.4.3 The transport related policies set out the integration of land use and transport, major improvements to both the public transport and road networks as well as all other modes of transport. They place particular emphasis on encouraging the greater use of public transport and other sustainable modes of transport as an alternative to car travel

A.4.4 **Policy EQ2 – Waterside access** seeks to secure, where appropriate waterside access:

- along river and canal sites, and
- along dock edges or quaysides.

A.4.5 **Policy EQ3 – Waterside commercial development** states that any adverse impact on the nature conservation value of the area by industry

and those associated with waterway freight transport development will be minimised.

- A.4.6 **Policy EQ22 – Access** requires satisfactory catering for the needs of disabled people with the exception of proposals where access is not a material consideration.
- A.4.7 **Policy EQ45 – Pollution** states that planning permission will be resisted should it involve the generation of unacceptable levels of one or more of the following:
- Vibration
 - Smell
 - Fumes
 - Dust
 - Grit
 - Air and water pollutants
 - Noise
 - Vehicular or pedestrian traffic
 - Ground/soil pollutants
 - Light spillage
- A.4.8 **Policy EQ47 – Noise impact assessment** requires that a noise assessment be carried out by a developer for submission with the planning application should a considerable increase in noise be expected.
- A.4.9 **Policy EQ48 – Noise – sensitive development** requires the assessment of the proposal using the concept of ‘noise exposure categories’ (NECS). Where a noise-sensitive development is proposed at a close proximity to a permanent source of noise or vibration, an acoustic assessment will be required by the applicant to demonstrate that either:
- The site is suitable for the development proposed; and
 - Appropriate attenuation measures will be incorporated into the development.
- A.4.10 **Policy EQ56 – Criteria for assessing waste management facilities** normally requires an impact assessment which meets the following criteria:
- Separation from existing and proposed schools, hospitals, housing and other sensitive land uses;
 - Good access to the strategic road network, rail or river depot transshipment facilities;
 - Appropriate landscaping and screened from view where necessary; and
 - No significant land contamination or airborne, water or noise pollution.
- A.4.11 **Policy T14 – Design to minimise road accidents in new development** aims to keep road accidents and personal injuries to a minimum on all developments involving access/egress onto a public highway.

Local Development Framework – Core Strategy (LB Newham, 2012)

- A.4.12 The LDF was adopted in January 2012. It forms the key planning document that manages development and regeneration in the borough until 2027. The adoption of the Core Strategy on 26 January 2012 has resulted in the deletion of some Unitary Development Plan (UDP) policies. The transport related policies are identified below.
- A.4.13 The Vision for Newham is to maximise the development potential of the Arc of opportunity in the borough by securing the highest quality developments to drive improvements in the area.
- A.4.14 The improvement of the area's natural and built resources including the waterside, docks and rivers will facilitate their active use and create outstanding public spaces.
- A.4.15 The boroughs multifunctional town and local centres will be supported by amongst other things enhanced infrastructural assets that provide vital connections through a mix of land uses.
- A.4.16 **Policy S2 – Stratford and West Ham** aims to improve connectivity between surrounding areas and between new and existing communities.
- A.4.17 **Policy S5 – Beckton** seeks to make improvements to the connectivity of streets and routes through the area.
- A.4.18 **Policy SP2 – Healthy neighbourhoods** wishes to *“promote healthy lifestyles, reduce health inequalities, and create healthier neighbourhoods.”* This is achieved in a number of ways, including:
- Facilitating and promoting walking and cycling; and
 - Protection and promotion of local access to health and other community facilities
- A.4.19 **Policy SP3 – Quality urban design within places** aims to promote safe, social and balanced communities through the securing of high quality urban design in new buildings and spaces.
- A.4.20 **Policy SP5 – Heritage and other successful place-making assets** recognises *“the value of heritage and other assets through protection, conservation and enhancement.”*
- A.4.21 It seeks to achieve improved integration and enhancement of new, old, natural and built environments and infrastructure.
- A.4.22 **Policy INF1 – Strategic transport** involves proposals to encourage the improvement and use of Newham's navigable waterway network.
- A.4.23 **Policy INF2 – Sustainable transport** aims to support the ongoing and increased investment in sustainable transport including the following:
- Raising and maintaining the safety quality, appearance and functioning of the public realm;
 - To address physical barriers where applicable to provide connecting public routes through and within new development and to public transport nodes;
 - Improving defined routes for walking, horse riding and cycling;

- Providing safe, high quality measures to encourage and facilitate cycling;
- Supporting improvements to local public transport services through investment in infrastructure;
- Maintaining careful management of routes, capacity and parking for motor traffic;
- To locate major developments that attract large numbers of trips in areas with good public transport accessibility;
- Development proposals that will generate unacceptable adverse impact on the capacity or environment of the highway network will not be supported;
- Environmental and capacity to be measured through transport assessments and travel plans for new developments; and
- To incorporate the appropriate cycle and parking standards, to be subject to a local review in the forthcoming Development Management Policy Manual.

A.4.24 **Policy INF3 – Waste and recycling** seeks to manage Newham’s waste in accordance with the waste apportionment set out in the London Plan with the aim of moving landfill to waste minimisation, moving up the waste hierarchy.

A.4.25 **Policy INF6 – Green infrastructure** addresses the deficiencies and seeks to improve the quality, accessibilities and improve the connections of existing open spaces. It also ensures that new developments include adequate open space for new residents.

A.4.26 **Policy INF7 – Blue Ribbon Network** aims to protect and enhance the Blue Ribbon Network, contributing to the regeneration of the Borough.

Supplementary Planning Guidance – Environmental Sustainability Checklist for Major Development (London Borough of Newham, 2004)

A.4.27 The guidance note aims to provide an environmental sustainability checklist of supporting information that may be requested by the council to assist in assessing the environmental sustainability of the major development. The following topics may be relevant to and affect a transport development:

- **Access for all** aims to “create an environment that provides full accessibility for all” and “contribute towards greater social equity and social inclusiveness”
- **Noise** seeks to protect human health through improving public amenity and local quality of life.
- **Transport** has the following objectives:
 - Encourage the switch of private car use to more energy efficient, less polluting modes of transport;
 - Reduce traffic congestion;
 - Protect human health;
 - Reduce traffic related environmental impacts; and

- Minimise the impact of global warming by conserving non-renewable natural resources.
- **Air Quality** seeks to reduce the risks of harm to human health, minimise global warming and reduce ecosystem damage.
- **Quality of waterside development** has the following aims:
 - Promote urban environmental quality;
 - Promote the use of river for sustainable transport and leisure; and
 - Protect and enhance the biodiversity of the Thames, its tributaries and its adjoining habitats.

Supplementary Planning Guidance – London City Airport Safeguarding (London Borough of Newham, 2004)

A.4.28 The purpose of the guidance is to provide a checklist of relevant planning and design issues that require consideration by those applying for planning permission and Council planning officers within a ‘safeguarded’ area around London City Airport.

A.4.29 The issues that may be related to a transport development include:

- a. Physical Safeguarding Areas (Obstacle Limitation Surfaces);
- b. Technical Safeguarding Areas;
- c. Construction and Cranage;
- d. Public Safety Zones (PSZs);
- e. Noise-Sensitive Development; and
- f. Roads and Railways.

Supplementary Planning Guidance – Welcome to the Lea River Park (London Thames Gateway Development Corporation)

A.4.30 The document sets out the principles of delivering a new park in the Lower Lea Valley. The park aspires to create a new linear parkway (the ‘Fatwalk’) which will connect and unite six individual park areas. There are also proposals to open spaces and listed buildings for public access in the Mill Meads and Abbey Mills estate to form a new park space and hence sharing the ‘extraordinary landscapes’ with the public.

Appendix B: PTAL analysis

This page is intentionally blank

PTAI Study Report File Summary

PTAI Run Parameters

PTAI Run 20120410145122
Description 20120410145122
Run by user PTAL web application
Date 04/10/2012

Walk File Parameters

Walk File PLSQLTest
Day of Week M-F
Time Period AM Peak
Walk Speed 4.8 kph
BUS Walk Access Time (mins) 8
BUS Reliability Factor 2.0
LU LRT Walk Access Time (mins) 12
LU LRT Reliability Factor 0.75
NATIONAL_RAIL Walk Access Time (mins) 12
NATIONAL_RAIL Reliability Factor 0.75

Transport Assessment

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF	AI
BUS	HIGH STREET ABBEY LANE	108	432.78	6	0.5	5.41	7	12.41	2.42	1.21
BUS	HIGH STREET ABBEY LANE	D8	432.78	5	0.5	5.41	8	13.41	2.24	1.12
BUS	HIGH STREET ABBEY LANE	339	432.78	4	0.5	5.41	9.5	14.91	2.01	1.01
BUS	HIGH STREET ABBEY LANE	425	432.78	5	0.5	5.41	8	13.41	2.24	1.12
BUS	HIGH STREET ABBEY LANE	25	432.78	8	1	5.41	5.75	11.16	2.69	2.69
BUS	HIGH STREET ABBEY LANE	276	432.78	6	0.5	5.41	7	12.41	2.42	1.21

Note: Total AI for this POI is 8.36.
PTAL Rating is 2.

Appendix C: Accident Analysis

C.1 Existing Highway Safety Analysis

- C.1.1 Details of road traffic accidents within the vicinity of the site have been obtained from Transport for London (TfL) and have been reviewed to determine whether there are particular issues or trends on the local highway network.
- C.1.2 Data on accidents for 5 years until the end of March 2011 has been analysed for the following junctions and surrounding roads:
- Stratford High Street;
 - Stratford High Street/ Abbey Lane;
 - Stratford High Street/ Carpenters Road; and
 - Carpenters Road/ Jupp Road.
- C.1.3 Based on the DfT Design Manual for Roads and Bridges, Section 13 Economic Assessment of Road Schemes, accidents have been analysed according to the method outlined in this guidance which states that accidents that have occurred within 20m of each junction are associated with that specific junction, and the remaining accidents are grouped to the relevant links.
- C.1.4 The area of interest together with the locations of the recorded road traffic accidents are indicated in Table C.1 below. The study area is also graphically represented in Figure 25.4.5 (see separate volume of figures).
- C.1.5 A total of 98 road traffic accidents have occurred in the area of interest during the five year period. These have been assessed in this section.
- C.1.6 Of these accidents, 90 are classified as slight, 7 are classified as serious and 1 as fatal. Table C.1 below summarises where these accidents occurred, and their level of severity. Accident analysis for the individual junctions and roads sections is discussed below.

Table C.1 Accident severity 2006 to 2011

Location	Slight	Serious	Fatal	Total
Stratford High Street	15	2	1	18
Stratford High Street/ Abbey Lane Junction	21	1	0	22
Stratford High Street/ Livingstone Road Junction	4	2	0	6
Stratford High Street/ Carpenters Road Junction	16	0	0	16
Stratford High Street/ Sugar House Lane Junction	6	1	0	7
Stratford High Street/ Rick Roberts Way Junction	9	1	0	10
Stratford High Street/ Marshgate Lane Junction	7	0	0	7

Location	Slight	Serious	Fatal	Total
Stratford High Street/ Wise Road Junction	7	0	0	7
Stratford High Street/ Blaker Road Junction	2	0	0	2
Carpenters Road/ Jupp Road Junction	3	0	0	3
Total	90	7	1	98

A11 Stratford High Street

C.1.7 The A11 Stratford High Street section runs parallel to the A12 to the north and the A13 to the south. For the stretch of the A11 within the study area, the highway is a two lane dual carriageway and an additional bus lane on one side heading in the east-west direction. The A11 Stratford High Street extends east as far as the A118 Romford Road and west as far as the A1202 Leman Street. The junctions involved within this analysis are as follows:

- Stratford High Street/ Abbey Lane Junction;
- Stratford High Street/ Livingstone Road Junction;
- Stratford High Street/ Carpenters Road Junction;
- Stratford High Street/ Sugar House Lane Junction;
- Stratford High Street/ Rick Roberts Way Junction;
- Stratford High Street/ Marshgate Lane Junction;
- Stratford High Street/ Wise Road Junction; and
- Stratford High Street/ Blaker Road Junction.

C.1.8 In total 95 accidents have occurred along the A11 Stratford High Street and the junction associated with this stretch of highway. In relation to the severity of these accidents, 87 were slight accidents, and predominantly resulted from vehicle driver / rider failing to look properly, poor manoeuvring and failure to judge person's path or speed. Those slight accidents involving pedestrians and cyclists were generally a result of failing to look properly, and in particular contributing factors to accidents with pedal cycles were identified as carelessness and following too close.

C.1.9 Of the total accidents, 7 were classified as serious. Most of the accidents involved collision of cars with motorcycles, pedal cycles, OGVs, LGVs, taxis, other cars and pedestrians. The major contributory factor to the serious accidents was failure to look properly and careless/reckless driving.

C.1.10 The 1 fatal accident that occurred along the A11 Stratford High Street in the 5 year period analysed, occurred with the Sugar House Lane junction to the north-west of the site. The accident 110m to the south-west of Sugar House Lane junction involved a pedestrian crossing the road from the nearside and being hit by a moving car. The accident was caused by the pedestrian failing to look properly and also failing to judge the vehicles path or speed.

Carpenters Road/ Jupp Road

- C.1.11 Carpenters Road/ Jupp Road junction runs in an opposite direction to the east of Abbey Lane and had 3 slight accidents occur on it during the 5 year period analysed. The cause of the accident was failure to look properly, poor manoeuvring and careless driving.
- C.1.12 There was no fatal or serious accidents on these roads during the 5 year period analysed.

C.2 Summary and conclusion

- C.2.1 The largest number of road traffic accidents has occurred at the A11 Stratford High Street with the Abbey Lane junction; which have been classified as 23 slight and 1 serious. The largest number of serious accidents has occurred at the A11 Stratford High Street with its junction at Livingstone Road.
- C.2.2 Two areas of significant clustering of accidents in the locations discussed are the A11 Stratford High Street/ Abbey Lane and A11 Stratford High Street/ Carpenters Road junctions where vehicle/pedestrian paths cross. In these cases vehicle accidents are relatively evenly spread around the junction indicating that accidents are not due to highway geometry.
- C.2.3 In the case of the majority of accidents within the study area, failure to look properly and careless driving are the main causes, as well as poor turning/ manoeuvring.
- C.2.4 The one fatality that occurred within this study area is attributed to failure to look properly and failing to judge the vehicles path or speed and is not considered to be due to road geometry or failure of infrastructure.
- C.2.5 Overall, the accidents occurred in the area of interest were mainly caused by vehicle/ pedestrian paths crossing or not looking properly which resulted from careless/ reckless driving and failure to judge other person's path or speed indicating that the accidents are not due to highway geometry or poor infrastructure. In the case of pedal cycles, it was generally identified that accidents were caused by carelessness or following too closely to vehicles.
- C.2.6 Of the total accidents, three accidents involved LGVs and OGVs, of which the accidents involving LGVs led to slight accidents and the accident involving OGVs led to two serious and one slight accident.

This page is intentionally blank

Appendix D: Road Safety Audit

This page is intentionally blank

Thames Tunnel
The Point
(7th Floor)
37 North Wharf Road
Paddington
London
W2 1AF
For the attention of Dermot Scanlon

Central Square
Forth Street
Newcastle upon Tyne
NE1 3PL
United Kingdom
t +44 191 261 6080
f +44 191 261 7879
chris.van-lottum@arup.com-
www.arup.com

13 February 2013

Dear Sirs

Thames Tideway Tunnel Abbey Mills Pumping Station – Stage 1 Road Safety Audit

Prior to the decision not to audit the Thames Tideway Tunnel – Abbey Mills Pumping Station scheme the audit team had already visited the site and examined materials provided to them. This letter has been prepared for the project team in place of a formal Road Safety Audit report and highlights points relating to the proposals identified by the audit team. I would be grateful if you would bring these issues to the attention of the Designer and/or Maintainer as appropriate.

Comments

- Abbey Lane is a road recommended for use by cyclists. Any traffic management proposed on these roads should take full account of cycle traffic. Delivery drivers should be made aware of the presence of the cycle routes and the likely increased risk of cycle / goods vehicle conflict.
- The swept path analysis shows large HGVs crossing the centreline on the bend by the access to Britten Court. This could result in a head on collision. It may be beneficial to erect temporary 'SLOW' traffic signs here for the duration of the works (road markings are likely to wear off quickly) to reduce the risk of such a conflict.



IMG_8792.jpg

- The existing road markings on Abbey Lane differ significantly from the drawings provided to the audit team. The existing road has no central median hatching and the provision of parking bays differs from the drawings.



IMG_8782.jpg

- The footpath around the southern perimeter of the site was already closed at the time of the site visit.

The agreed Audit Team of Mr C van Lottum MEng (Hons), MCIHT, MSoRSA and Mr T Corke BEng (Hons), MSc, CEng, MICE, MCIHT, MSoRSA visited the site together on Wednesday 12th December 2012. The examination of the site and materials provided for inspection was undertaken in accordance with the Terms of Reference set out in TfL Procedure 'Road Safety Audit SQA-0170 – Issue 4'; and the Audit Team members meet the training and experience requirements set out therein. Road Safety Audit is based upon a qualitative risk assessment process and there is no measure of the success achieved by any recommendations given herein. Road Safety Audit cannot guarantee the safe operation of the scheme under consideration as accidents are rare and random events and are largely caused by factors outside the Audit Team's influence

If you have any further queries regarding this letter or the enclosed report, please do not hesitate to contact me

Yours faithfully



Chris van Lottum
Senior Engineer
Road Safety Audit Team Leader

Enc

cc Phillip Longman, Peter Brett Associates
Gavin Wicks, Arup

The following documents and drawings were supplied to the Audit Team by the Designer and have been examined in the course of conducting this audit.

Title	Reference	Revision
Transport - site location plan	1PL03-TT-50704	Jan 2013
Transport - construction traffic routes	1PL03-TT-50696	Jan 2013
Transport - accident locations	1PL03-TT-50760	Jan 2013
Construction phases - phase 1 - Site setup and shaft construction	DCO-PP-26X-ABMPS-270012	Jan 2013
Highway Layout During Construction (Area 2)	DCO-PP-26X-ABMPS-270022	Jan 2013
Permanent Highway Layout – Area 2 Work	DCO-PP-26X-ABMPS-270024	Jan 2013
Highway Layout During Construction (Area 2) – Vehicle Swept Path Analysis	DCO-PP-26X-ABMPS-270026	Jan 2013
Permanent Highway Layout - (Area 2) – Vehicle Swept Path Analysis	DCO-PP-26X-ABMPS-270028	Jan 2013

This page is intentionally blank

Job Name	Thames Tideway Tunnel – Abbey Mills Pumping Station	
Job No.	22104	
Note No.	001	
Date	15 th February 2013	
Subject	Stage 1 Road Safety Audit – Designer’s Response	
Prepared by	L Harney	Reviewed: B Kemp

Peter Brett Associates LLP
16 Brevhouse Yard, Clerkenwell,
London, EC1V 4LJ
T: +44 (0)20 7025 7100
E: london@peterbrett.com

1 Introduction

1.1 Arup was appointed by Thames Water to conduct a Stage 1 Road Safety Audit on proposals to create a construction access and egress for works associated with the Thames Tideway Tunnel at Abbey Mills Pumping Station in the London Borough of Newham.

1.2 A road safety audit was not undertaken for this site. However the audit team did visit the site and had the following comments this technical note provided the Designer’s Response to the comments raised.

2 Safety review

2.1 .

2.2 Comments

Abbey Lane is a road recommended for use by cyclists. Any traffic management proposed on these roads should take full account of cycle traffic. Delivery drivers should be made aware of the presence of the cycle routes and the likely increased risk of cycle / goods vehicle conflict.

Comment Response – Site Staff and delivery drivers will be made aware of the presence of cyclists on Abbey Lane. This will be included in the Code of Construction Practice at Stage 2 (Detailed Design).

2.3 Comment

The swept path analysis shows large HGVs crossing the centreline on the bend by the access to Britten Court. This could result in head on collisions. It may be beneficial to erect “slow” traffic signs for the duration of the works (road markings are likely to wear off quickly) to reduce the risk of such conflicts.

Comment Response – The use of “slow” signs in isolation without an associated warning sign or description of reason is not recommended. Consideration will be given to appropriate signing warning of the likely conflict at Stage 2 (Detailed Design).

2.4 Additional Comments

The existing road markings on Abbey Lane differ significantly from the drawings provided to the audit team. The existing road has no central median hatching and the provision of parking bays differs from the drawings.

2.5

Comment Response – Changes to the road markings and on-street parking provision on Abbey Lane have been implemented by Thames Water to accommodate HGVs accessing the Lee Tunnel site. These measures will revert to their previous arrangement

2.6

Comments

The footpath around the southern perimeter of the site was already closed at the time of the site visit.

Comment Response – This footpath was closed as part of the Lee Tunnel Works. It will be reopened once Lee Tunnel construction works are completed.

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Transport Assessment

Doc Ref: **7.10.22**

Abbey Mills Pumping Station

Figures

APFP Regulations 2009: Regulation **5(2)(q)**

Hard copy available in

Box **53** Folder **B**
January 2013

**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

This page is intentionally blank

Thames Tideway Tunnel

Transport Assessment

Section 25: Abbey Mills Pumping Station figures

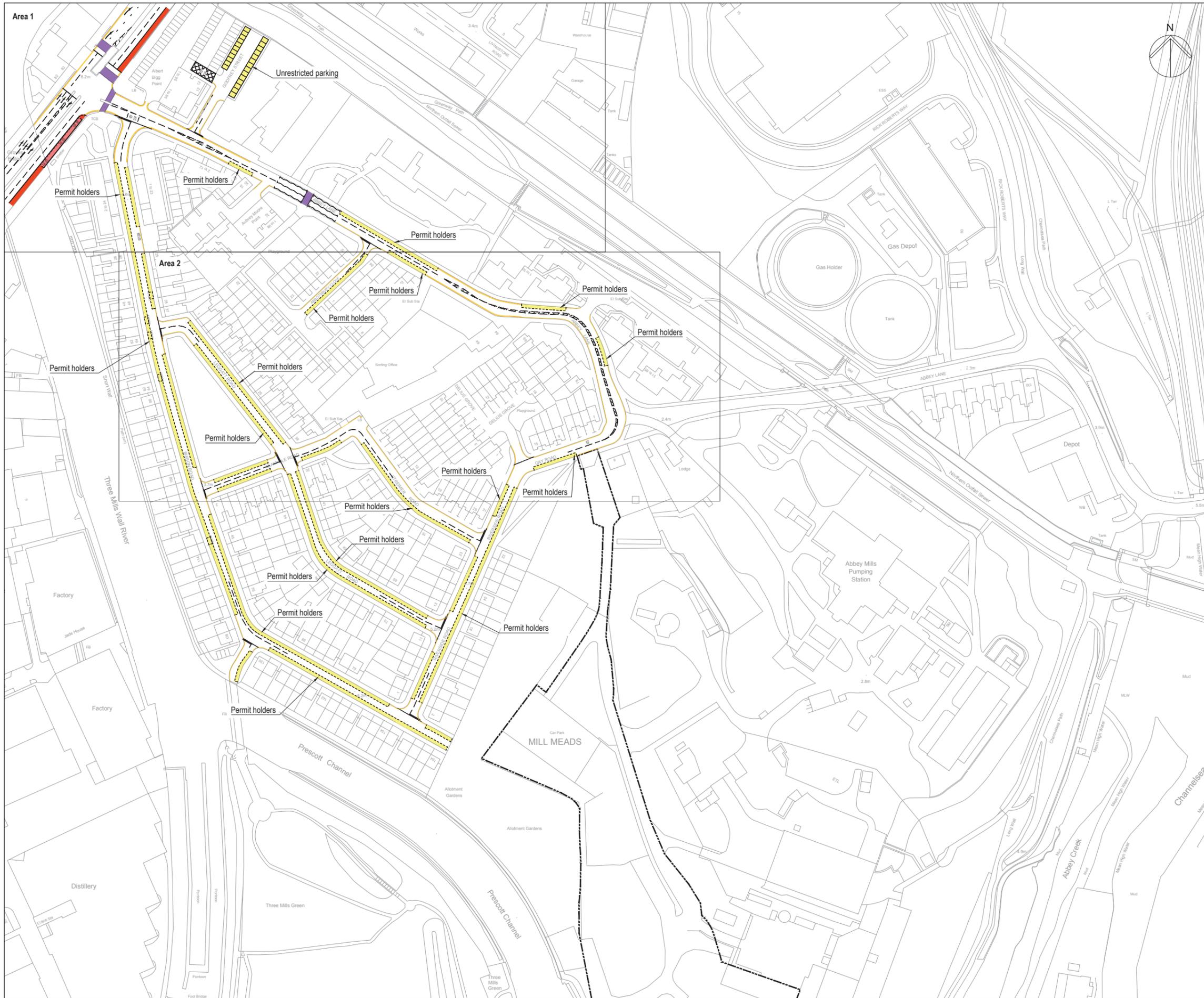
List of contents

Plans	
Transport - existing highway layout	
Transport - highway layout during construction area 1	
Transport - highway layout during construction area 2	
Transport - permanent highway layout area 1 work	
Transport - permanent highway layout area 2 work	
Transport - highway layout during construction area 1 - vehicle swept path analysis	
Transport - highway layout during construction area 2 - vehicle swept path analysis	
Transport - permanent highway layout area 1 - vehicle swept path analysis	
Transport - permanent highway layout area 2 - vehicle swept path analysis	
Transport assessment figures	
Transport - site location plan	Figure 25.2.1
Transport - construction traffic routes	Figure 25.2.2
Transport - pedestrian and cycle network	Figure 25.4.1
Transport - public transport	Figure 25.4.2
Transport - parking	Figure 25.4.3
Transport - survey locations	Figure 25.4.4
Transport - accident locations	Figure 25.4.5
Transport - pedestrian and cyclist accidents by severity	Figure 25.4.6
Hourly Construction Lorry Movements - Site Year 1 of Construction	Figure 25.5.1

This page is intentionally blank

Plans

This page is intentionally blank



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Existing
- Parking restrictions
 - On street parking
 - Bus lane
 - Bus stop / stand
 - Pedestrian crossing
- Revised
- Limit of land to be acquired or used (LLAU)

On street parking
 Permit holders - ssw permit holders Mon - Fri 10am-12pm
 Unrestricted parking -

Stage
 Existing and construction base case

- Standards**
- Design Manual for Roads and Bridges, Dft, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, Dft, 2006
 - Manual for Streets, Dft, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, Dft, 2008
 - Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
 - Guidance on the use of Tactile Paving Surfaces, Dft, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

10m 0 100m
 Scale 1:1000 at A1
 1:2000 if reproduced at A3

FOR INFORMATION

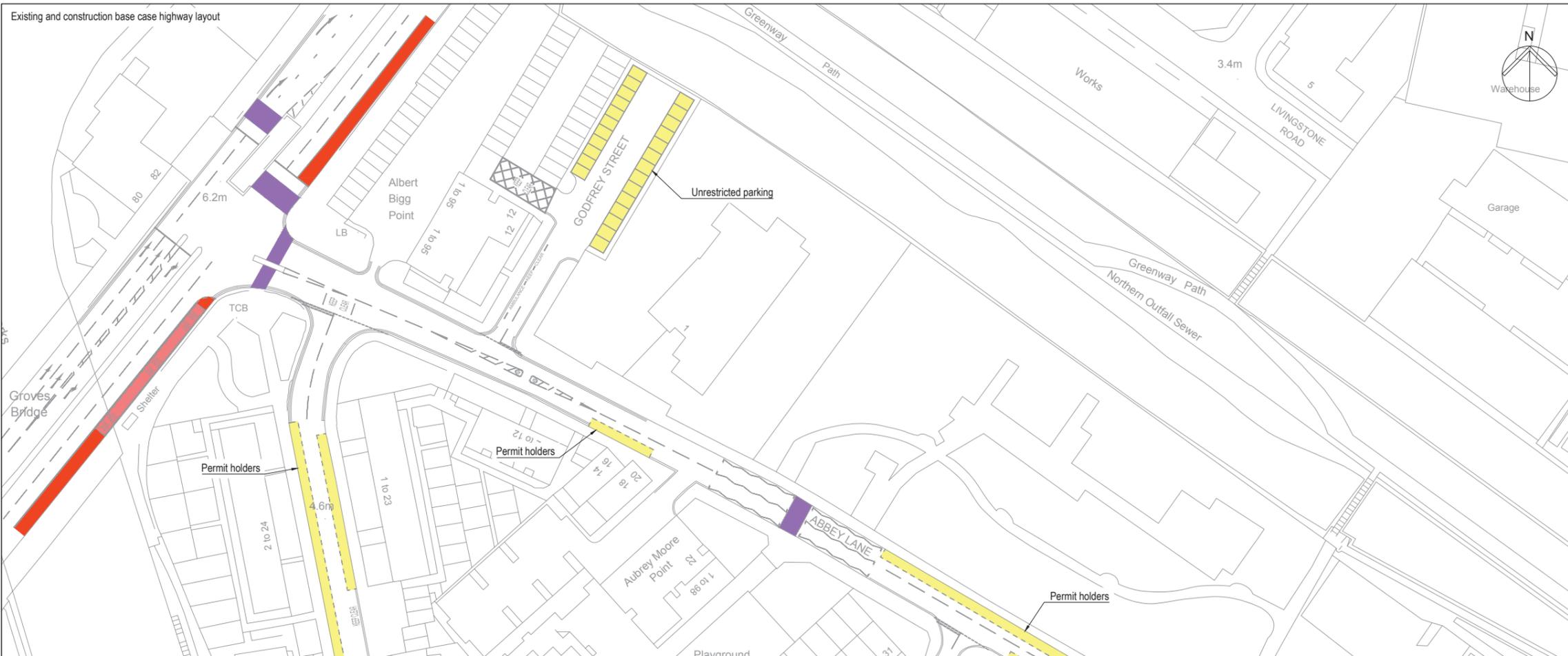
Location
 Abbey Mills Pumping Station
 London Borough of Newham

Document Information
 Application for Development Consent
 Existing Highway Layout

DCO-PP-26X-ABMPS-270020
 January 2013



Existing and construction base case highway layout



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

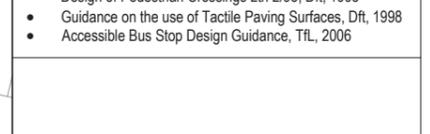
Key	
Existing	
	Parking restrictions
	On street parking
	Bus lane
	Bus stop / stand
	Pedestrian crossing
Revised	
	Parking restrictions
	Suspended on street parking
PNM3X_C00 See schedule of works	

On street parking
 Permit holders - ssw permit holders Mon - Fri 10am - 12pm
 Unrestricted parking -

Stage
 Phase 1 & 2

- Standards**
- Design Manual for Roads and Bridges, DfT, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, DfT, 2006
 - Manual for Streets, DfT, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, DfT, 2008
 - Design of Pedestrian Crossings Ltn 2/95, DfT, 1995
 - Guidance on the use of Tactile Paving Surfaces, DfT, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

Highway layout during construction



ILLUSTRATIVE

Location
 Abbey Mills Pumping Station
 London Borough of Newham

Document Information
 Application for Development Consent
 Highway Layout During Construction
 (Area 1)

DCO-PP-26X-ABMPS-270021
 January 2013



Abbey Mills Pumping Station

THAMES TIDEWAY TUNNEL - SCHEDULE OF ASSOCIATED HIGHWAY WORKS

Drawing Number	Works Reference	Location	Item of Work	Date of Implementation
DCO-PP-26X-ABMPS-270021	PNM3X_C01	Abbey Lane - South east of Godfrey Street	Provision of approximately 17m of double yellow lines	TBC
	PNM3X_C02	Abbey Lane - South east of Godfrey Street	Suspension of approximately 4m of on-street permit holder parking and provision of single yellow line restriction, Monday to Friday at any time. This is to be confirmed with LB Newham	TBC
	PNM3X_C03	Abbey Lane - North west of Abbey Lane / Abbotsbury Close Junction	Extension of single yellow line parking restrictions hours of operation. No parking permitted, Monday - Friday at any time.	TBC
	PNM3X_C04	Abbey Lane / Abbotsbury Close Junction	Provision of approximately 15m of double yellow lines	TBC
DCO-PP-26X-ABMPS-270022	PNM3X_C05	Abbey Lane - South east of Abbey Lane / Abbotsbury Close Junction	Suspension of approximately 25m of on-street permit holder parking and provision of single yellow line restriction, Monday to Friday at any time.	TBC
	PNM3X_C06	Abbey Lane - East of Abbey Lane / Abbotsbury Close Junction	Suspension of approximately 14m of on-street permit holder parking and provision of single yellow line restriction, Monday - Friday at any time. This is to be confirmed with LB Newham.	TBC
	PNM3X_C07	Abbey Lane - West of Britten Court	Suspension of approximately 25m of on-street permit holder parking and provision of single yellow line restriction, Monday - Friday at any time.	TBC
	PNM3X_C08	Abbey Lane - South west of Britten Court access	Extension of single yellow line parking restrictions hours of operation. No parking permitted, Monday - Friday at any time.	TBC
	PNM3X_C09	Abbey Lane - South east of Britten Court access	Suspension of approximately 17m of on-street permit holder parking and provision of single yellow line restriction, Monday to Friday at any time.	TBC
	PNM3X_C10	Gay Road	Provision of gated site access	TBC
DCO-PP-26X-ABMPS-270023	PNM3X_P01	Abbey Lane - South east of Godfrey Street	Retention of approximately 17m of double yellow lines which were implemented in accordance with PNM3X_C01	TBC
	PNM3X_P02	Abbey Lane - South east of Godfrey Street	Reinstatement of approximately 4m of on-street permit holder parking which was suspended as part of PNM3X_C02.	TBC
	PNM3X_P03	Abbey Lane - North west of Abbey Lane / Abbotsbury Close Junction	Return of single yellow line parking restrictions hours of operation to existing.	TBC
	PNM3X_P04	Abbey Lane / Abbotsbury Close Junction	Removal of approximately 15m of double yellow lines which were implemented as part of PNM3X_C04	TBC
DCO-PP-26X-ABMPS-270024	PNM3X_P05	Abbey Lane - South east of Abbey Lane / Abbotsbury Close Junction	Reinstatement of approximately 25m of on-street permit holder parking which was suspended in accordance with PNM3X_C05	TBC
	PNM3X_P06	Abbey Lane - East of Abbey Lane / Abbotsbury Close Junction	Reinstatement of approximately 14m of on-street permit holder parking which was suspended in accordance with PNM3X_C06	TBC
	PNM3X_P07	Abbey Lane - West of Britten Court	Reinstatement of approximately 25m of on-street permit holder parking which was suspended as part of PNM3X_C07	TBC
	PNM3X_P08	Abbey Lane - South west of Britten Court access	Return of single yellow line parking restrictions hours of operation to existing.	TBC
	PNM3X_P09	Abbey Lane - South east of Britten Court access	Reinstatement of approximately 17m of on-street permit holder parking which was suspended in accordance with PNM3X_C09	TBC
	PNM3X_P10	Gay Road	Provision of gated permanent site access	TBC

Existing and construction base case highway layout



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

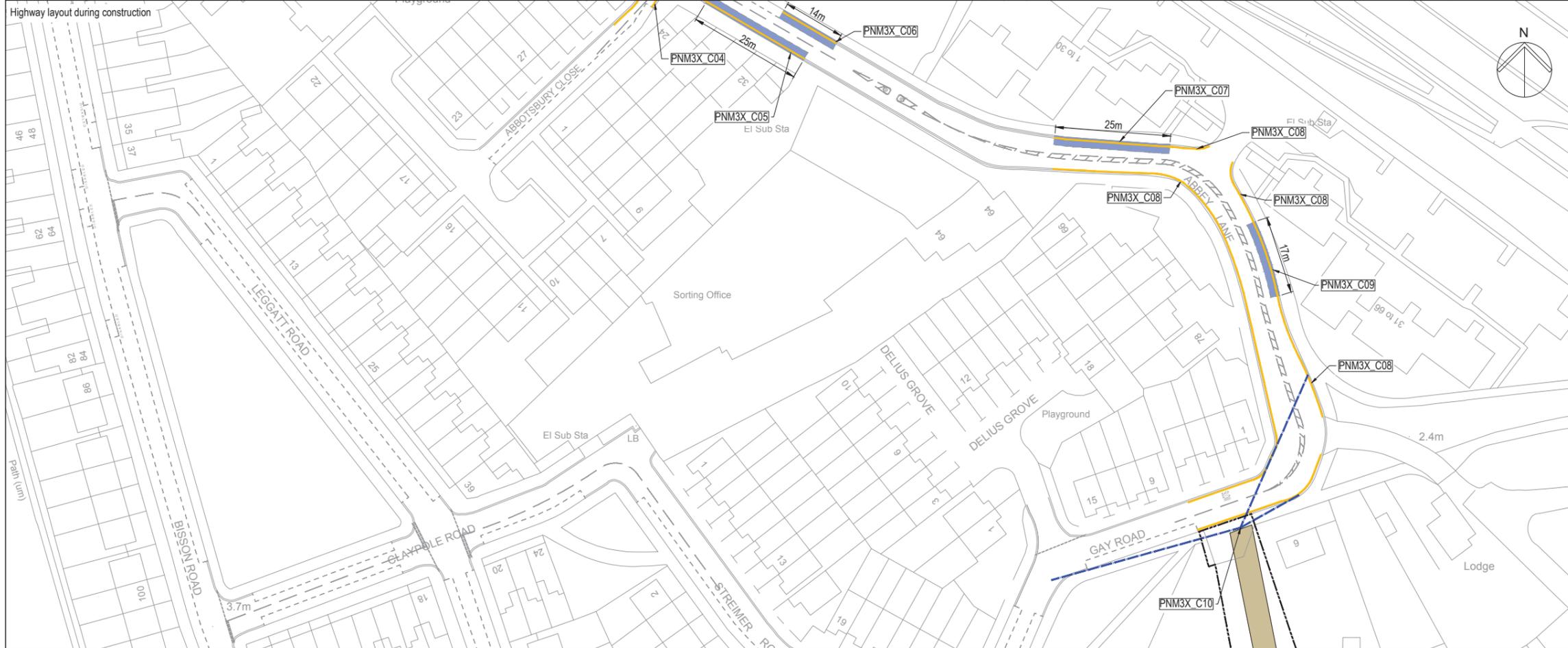
Key	
Existing	Parking restrictions
Yellow line	On street parking
Revised	Parking restrictions
Blue line	Suspended on street parking
Brown line	Illustrative on site manoeuvring zone
Blue dashed line	Visibility splay - 2.4m x 43m (SSD adjust for bonnet length)
Black dashed line	Limit of land to be acquired or used (LLAU)
PNM3X_C00	See schedule of works

On street Parking
Permit holders - ssw permit holders Mon - Fri 10am - 12pm

Stage
Phase 1 & 2

- Standards**
- Design Manual for Roads and Bridges, Dft, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, Dft, 2006
 - Manual for Streets, Dft, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, Dft, 2008
 - Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
 - Guidance on the use of Tactile Paving Surfaces, Dft, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

Highway layout during construction



Highway layout during construction

Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

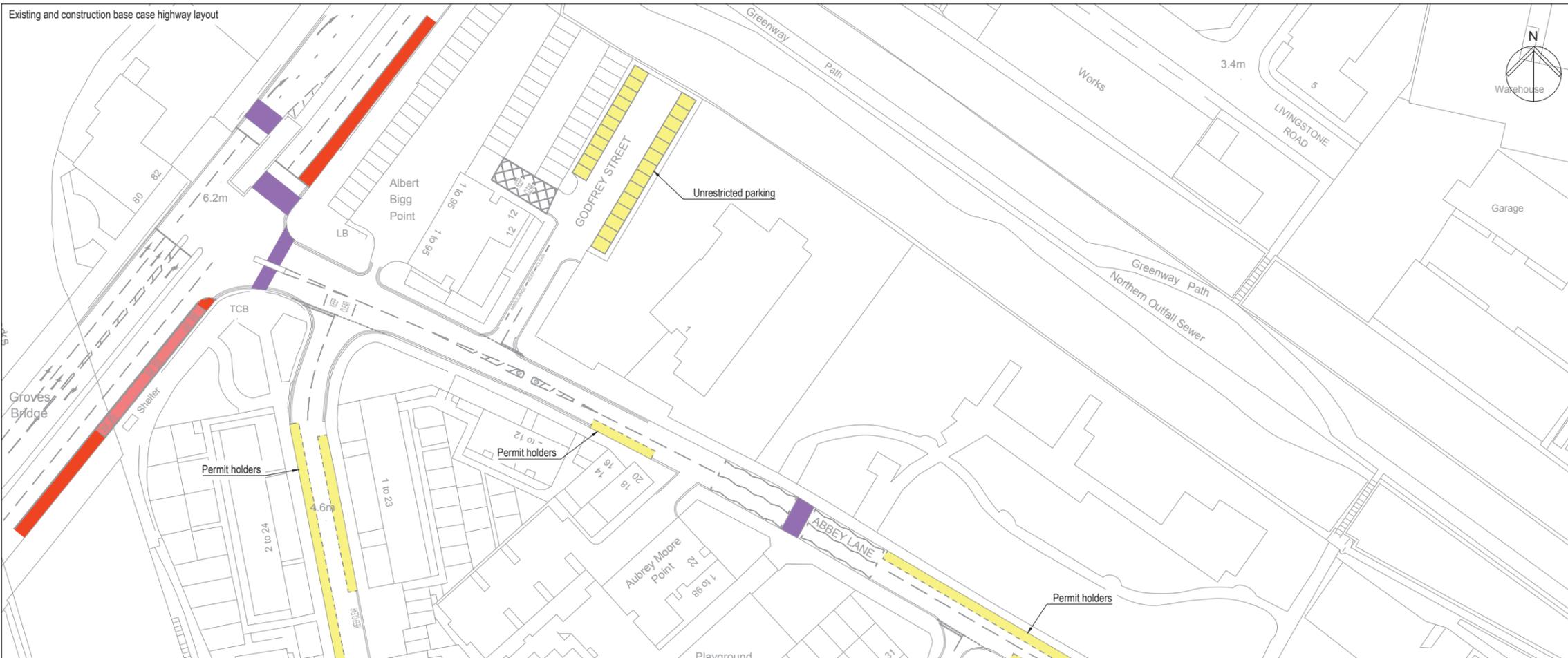
Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Highway Layout During Construction
(Area 2)

DCO-PP-26X-ABMPS-270022
January 2013



Existing and construction base case highway layout



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

Keyplan:



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

- Existing
- Parking restrictions
 - On street parking
 - Bus lane
 - Bus stop / stand
 - Pedestrian crossing

Revised

- Parking restrictions
 - Reinstated on street parking
- PNM3X_C00 See schedule of works

On street parking

Permit holders - ssw permit holders Mon - Fri 10am -12pm
Unrestricted parking -

Stage

Permanent phase

Standards

- Design Manual for Roads and Bridges, DfT, 1992
- Traffic Signs Regulations & General Directions, Tso, 2002
- Traffic Signs Manual, DfT, 2006
- Manual for Streets, DfT, 2007
- Manual for Streets 2, CIHT, 2010
- Designing for Deliveries, Fta, 1998
- Cycle Infrastructure Design Ltn 2/08, DfT, 2008
- Design of Pedestrian Crossings Ltn 2/95, DfT, 1995
- Guidance on the use of Tactile Paving Surfaces, DfT, 1998
- Accessible Bus Stop Design Guidance, TfL, 2006

Permanent highway layout



10m 0 40m

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location

Abbey Mills Pumping Station
London Borough of Newham

Document Information

Application for Development Consent
Permanent Highway Layout
Area 1 Work

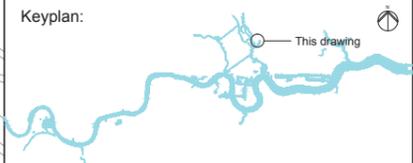
DCO-PP-26X-ABMPS-270023
January 2013



Existing and construction base case highway layout



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

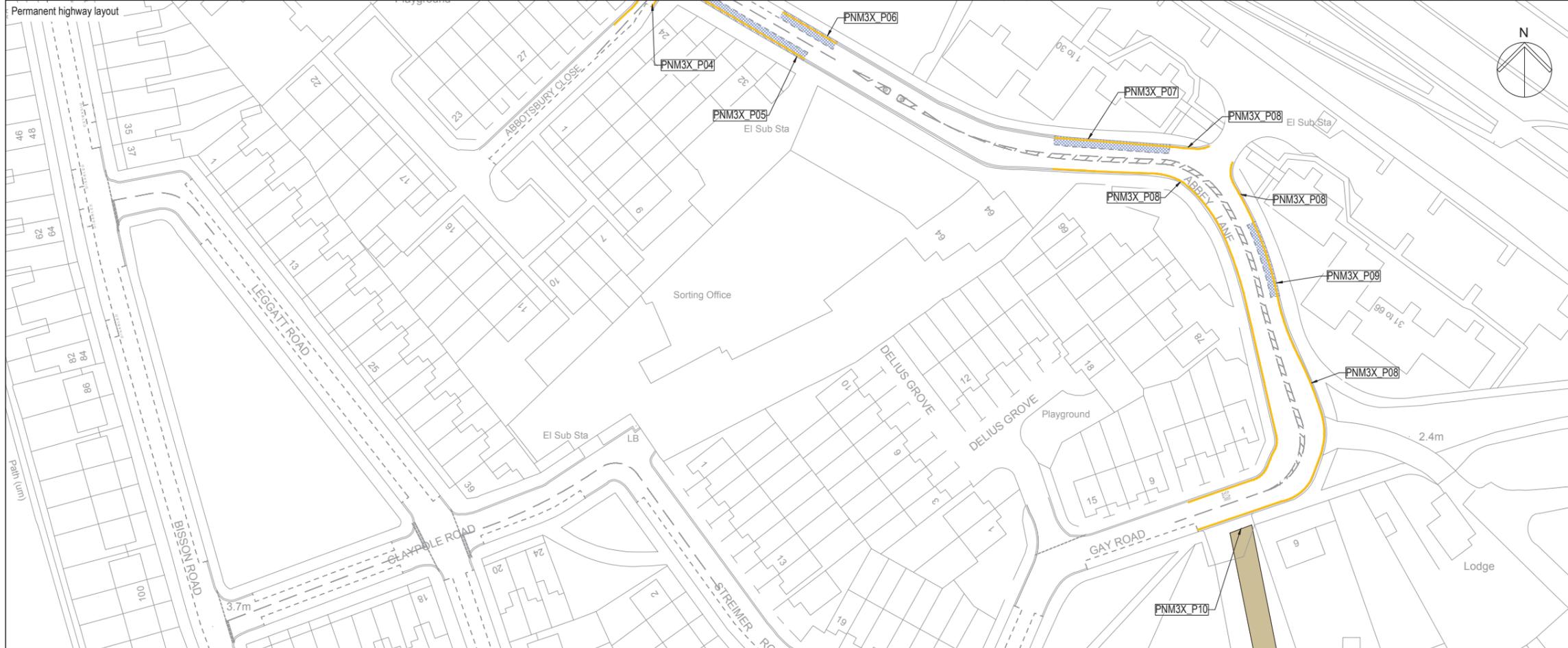
Key	
Existing	Parking restrictions
	On street parking
Revised	Parking restrictions
	Reinstated on street parking
	Illustrative on-site manoeuvring zone
PNM3X_C00	See schedule of works

On street parking
Permit holders - ssw permit holders Mon - Fri 10am - 12pm

Stage
Permanent phase

- Standards**
- Design Manual for Roads and Bridges, DfT, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, DfT, 2006
 - Manual for Streets, DfT, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, DfT, 2008
 - Design of Pedestrian Crossings Ltn 2/95, DfT, 1995
 - Guidance on the use of Tactile Paving Surfaces, DfT, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

Permanent highway layout



Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

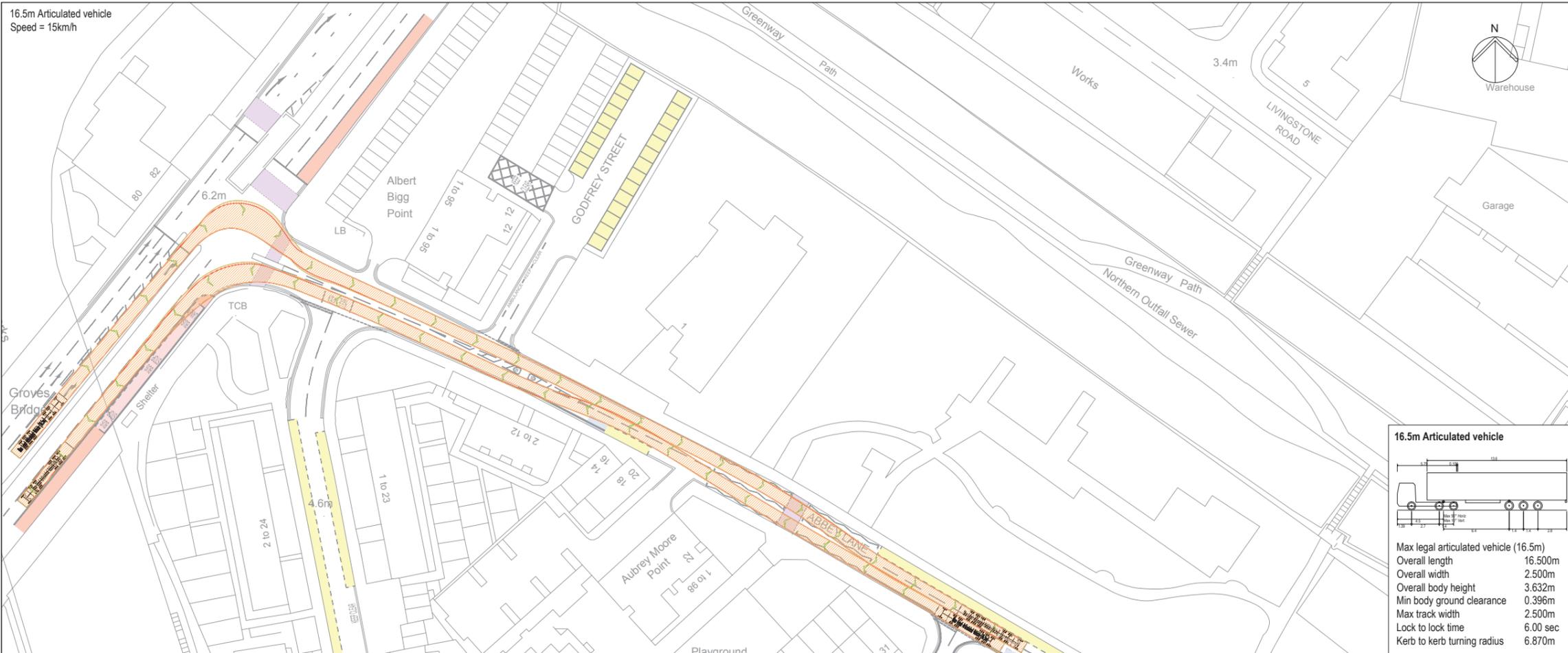
Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Permanent Highway Layout
Area 2 Work

DCO-PP-26X-ABMPS-270024
January 2013



16.5m Articulated vehicle
Speed = 15km/h



16.5m Articulated vehicle

Max legal articulated vehicle (16.5m)	16.500m
Overall length	16.500m
Overall width	2.500m
Overall body height	3.632m
Min body ground clearance	0.396m
Max track width	2.500m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	6.870m

Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

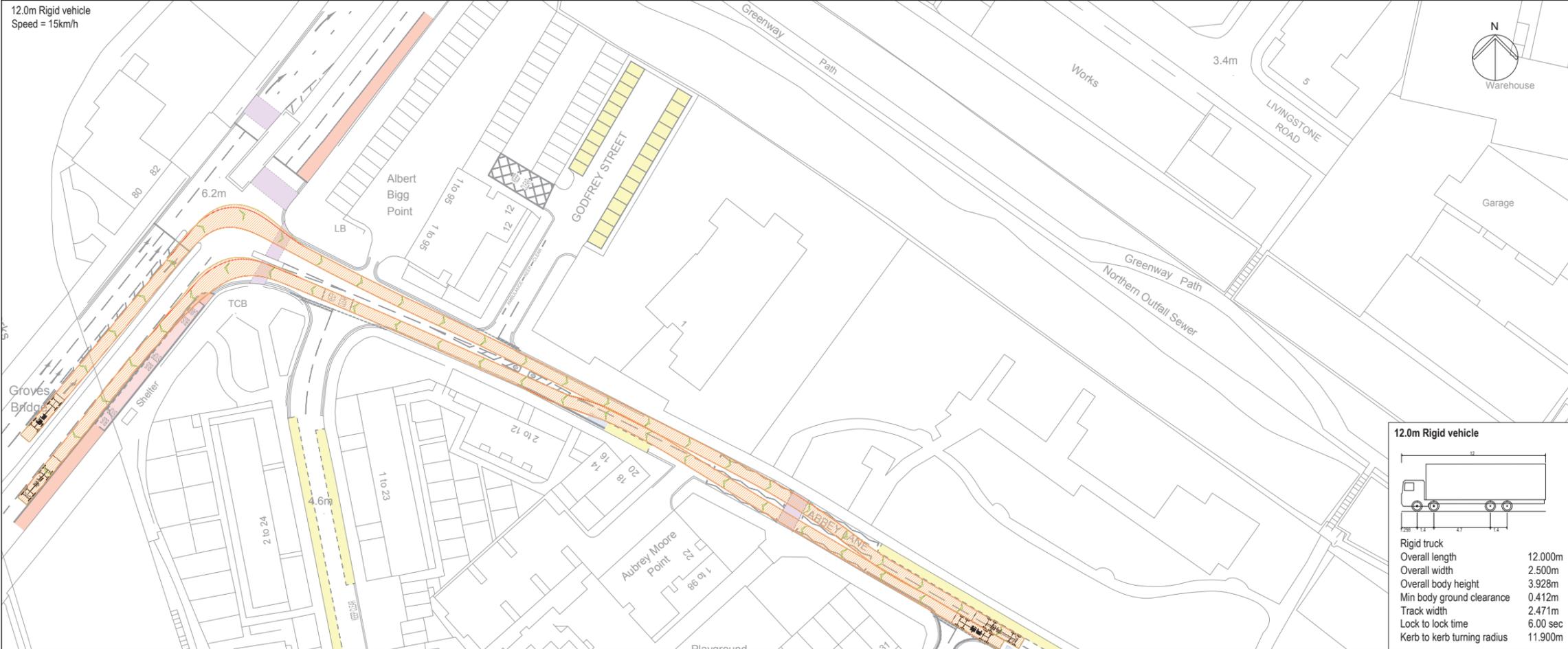


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Existing
- Parking restrictions
 - On street parking
 - Bus lane
 - Bus stop / stand
 - Pedestrian crossing
- Revised
- Suspended on street parking
- Vehicle swept path analysis
- Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path

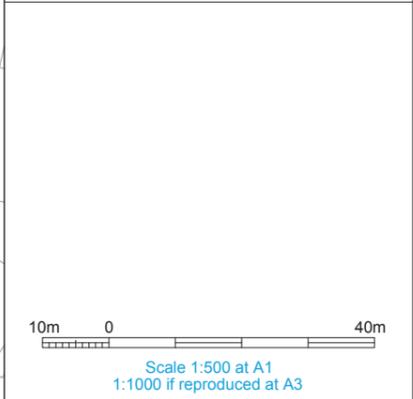
- Stage**
Phase 1 & 2
- Standards**
- Design Manual for Roads and Bridges, DfT, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, DfT, 2006
 - Manual for Streets, DfT, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, DfT, 2008
 - Design of Pedestrian Crossings Ltn 2/95, DfT, 1995
 - Guidance on the use of Tactile Paving Surfaces, DfT, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

12.0m Rigid vehicle
Speed = 15km/h



12.0m Rigid vehicle

Rigid truck	
Overall length	12.000m
Overall width	2.500m
Overall body height	3.928m
Min body ground clearance	0.412m
Track width	2.471m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	11.900m

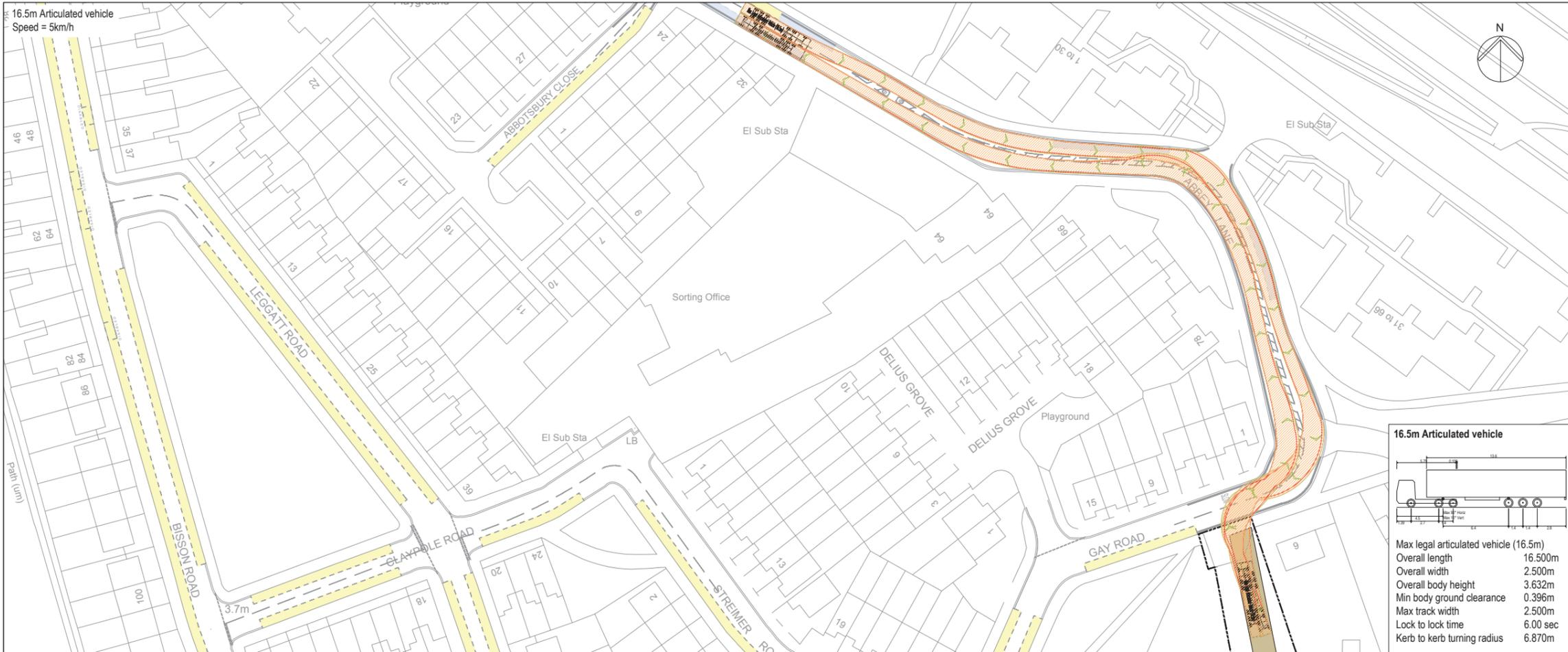


ILLUSTRATIVE

Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Highway Layout During Construction
(Area 1)
Vehicle Swept Path Analysis
DCO-PP-26X-ABMPS-270025
January 2013

16.5m Articulated vehicle
Speed = 5km/h



16.5m Articulated vehicle

Max legal articulated vehicle (16.5m)	16.500m
Overall length	16.500m
Overall width	2.500m
Overall body height	3.632m
Min body ground clearance	0.396m
Max track width	2.500m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	6.870m

Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345

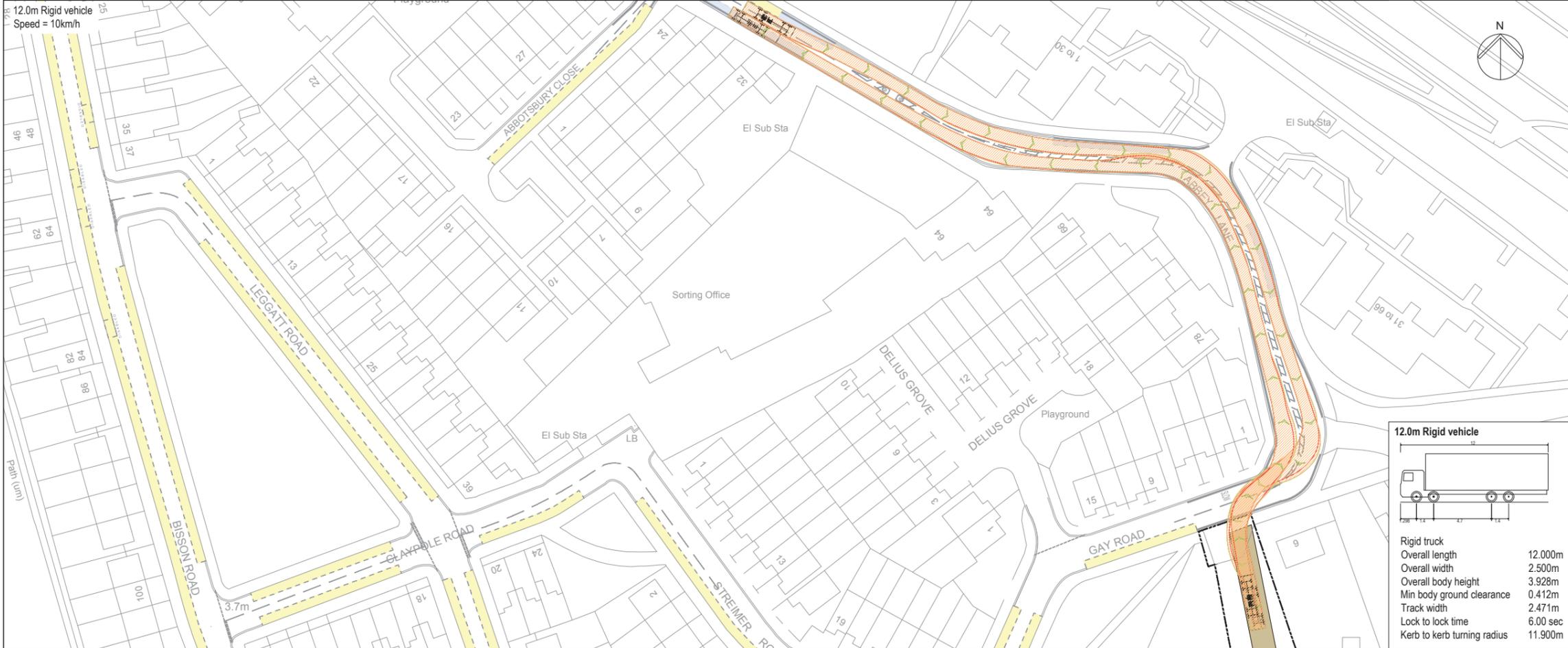


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Existing
- Parking restrictions
 - On street parking
- Revised
- Suspended on street parking
 - Illustrative on-site manoeuvring zone
 - Limit of land to be acquired or used (LLAU)
- Vehicle swept path analysis
- Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path

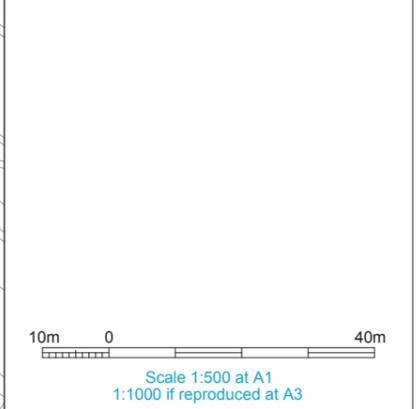
- Stage**
Phase 1 & 2
- Standards**
- Design Manual for Roads and Bridges, DfT, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, DfT, 2006
 - Manual for Streets, DfT, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, DfT, 2008
 - Design of Pedestrian Crossings Ltn 2/95, DfT, 1995
 - Guidance on the use of Tactile Paving Surfaces, DfT, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

12.0m Rigid vehicle
Speed = 10km/h



12.0m Rigid vehicle

Rigid truck	12.000m
Overall length	12.000m
Overall width	2.500m
Overall body height	3.928m
Min body ground clearance	0.412m
Track width	2.471m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	11.900m

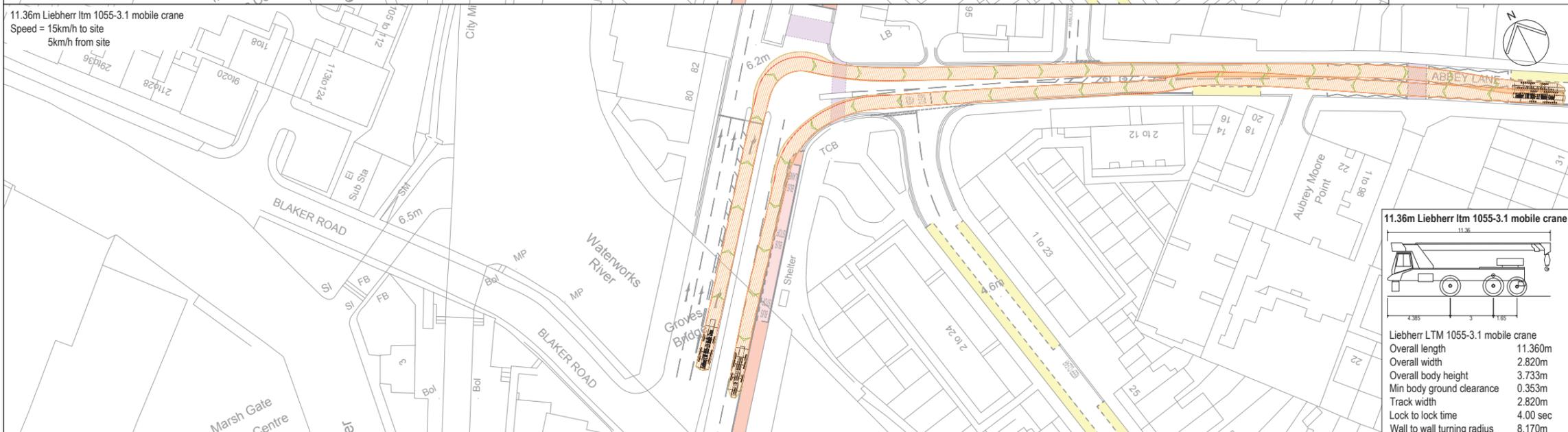
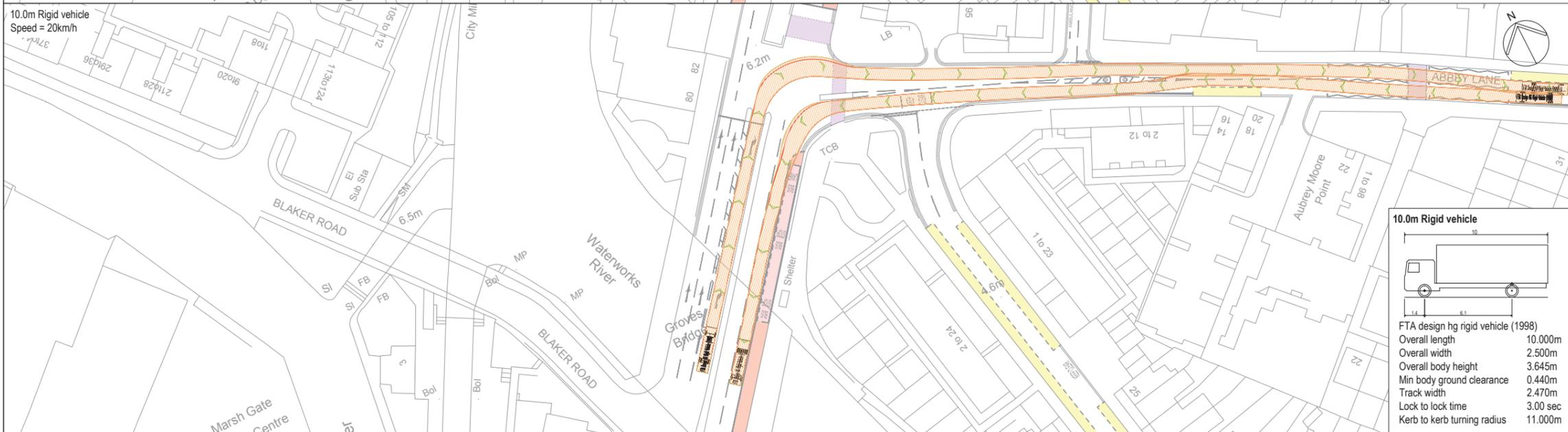
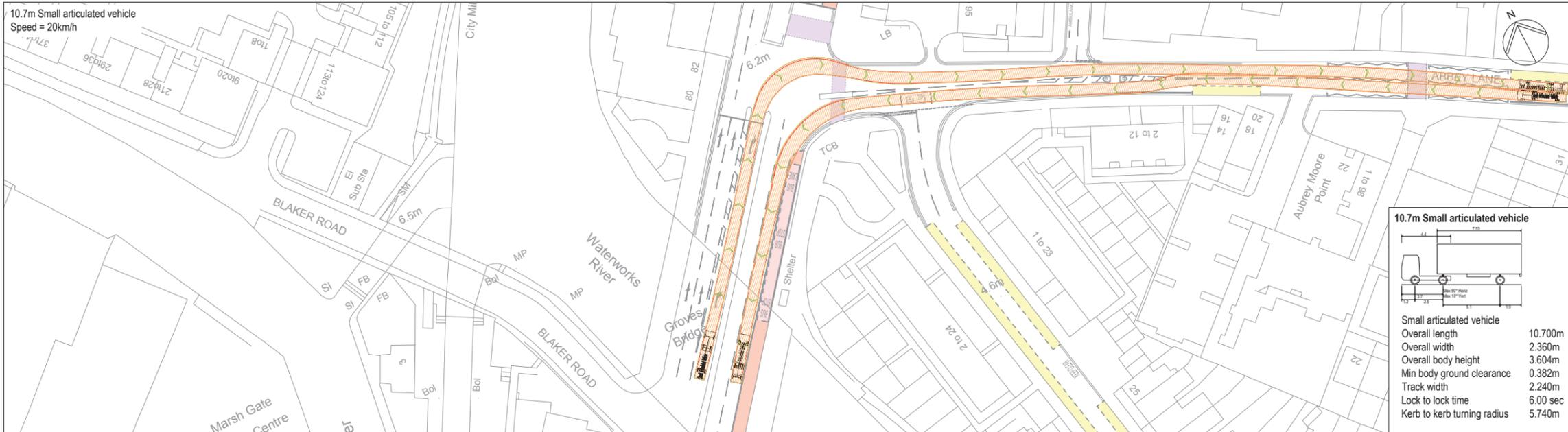


ILLUSTRATIVE

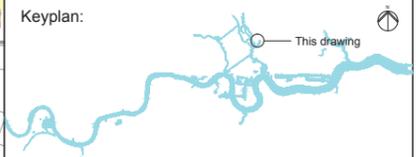
Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Highway Layout During Construction (Area 2)
Vehicle Swept Path Analysis
DCO-PP-26X-ABMPS-270026
January 2013





Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Existing
 - Parking restrictions
 - On street parking
 - Bus lane
 - Bus stop / stand
 - Pedestrian crossing
- Vehicle swept path analysis**
- Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path

10.7m Small articulated vehicle

Overall length	10.700m
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m

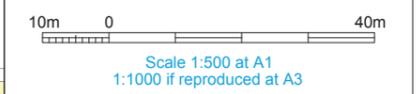
Stage
Permanent phase

- Standards**
- Design Manual for Roads and Bridges, Dft, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, Dft, 2006
 - Manual for Streets, Dft, 2007
 - Manual for Streets 2, CHIT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, Dft, 2008
 - Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
 - Guidance on the use of Tactile Paving Surfaces, Dft, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

10.0m Rigid vehicle

FTA design hg rigid vehicle (1998)

Overall length	10.000m
Overall width	2.500m
Overall body height	3.645m
Min body ground clearance	0.440m
Track width	2.470m
Lock to lock time	3.00 sec
Kerb to kerb turning radius	11.000m



ILLUSTRATIVE

Location
Abbey Mills Pumping Station
London Borough of Newham

Document Information
Application for Development Consent
Permanent Highway Layout
(Area 1)
Vehicle Swept Path Analysis
DCO-PP-26X-ABMPS-270027
January 2013



10.7m Small articulated vehicle
 Speed = 5km/h to site
 20km/h from site



10.7m Small articulated vehicle

Overall length	10.700m
Overall width	2.360m
Overall body height	3.604m
Min body ground clearance	0.382m
Track width	2.240m
Lock to lock time	6.00 sec
Kerb to kerb turning radius	5.740m

Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Key

Existing
 - Parking restrictions
 - On street parking

Revised
 - Illustrative on-site manoeuvring zone

Vehicle swept path analysis
 - Vehicle body outlines
 - Vehicle chassis outline
 - Vehicle swept path

10.0m Rigid vehicle
 Speed = 5km/h to site
 20km/h from site



10.0m Rigid vehicle

Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to Lock Time	3.00 sec
Kerb to Kerb Turning Radius	11.000m

Stage
 Permanent phase

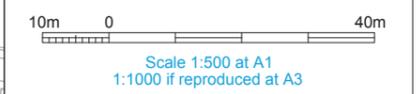
- Standards**
- Design Manual for Roads and Bridges, Dft, 1992
 - Traffic Signs Regulations & General Directions, Tso, 2002
 - Traffic Signs Manual, Dft, 2006
 - Manual for Streets, Dft, 2007
 - Manual for Streets 2, CIHT, 2010
 - Designing for Deliveries, Fta, 1998
 - Cycle Infrastructure Design Ltn 2/08, Dft, 2008
 - Design of Pedestrian Crossings Ltn 2/95, Dft, 1995
 - Guidance on the use of Tactile Paving Surfaces, Dft, 1998
 - Accessible Bus Stop Design Guidance, TfL, 2006

11.36m Liebherr ltm 1055-3.1 mobile crane
 Speed = 5km/h to site
 20km/h from site



11.36m Liebherr ltm 1055-3.1 mobile crane

Overall length	11.360m
Overall width	2.820m
Overall body height	3.733m
Min body ground clearance	0.353m
Track width	2.820m
Lock to lock time	4.00 sec
Wall to wall turning radius	8.170m



ILLUSTRATIVE

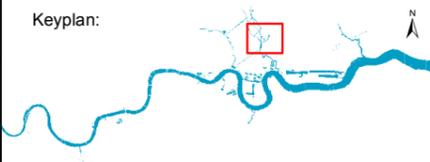
Location
 Abbey Mills Pumping Station
 London Borough of Newham

Document Information
 Application for Development Consent
 Permanent Highway Layout
 (Area 2)
 Vehicle Swept Path Analysis
 DCO-PP-26X-ABMPS-270028
 January 2013

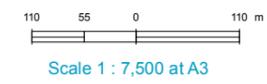
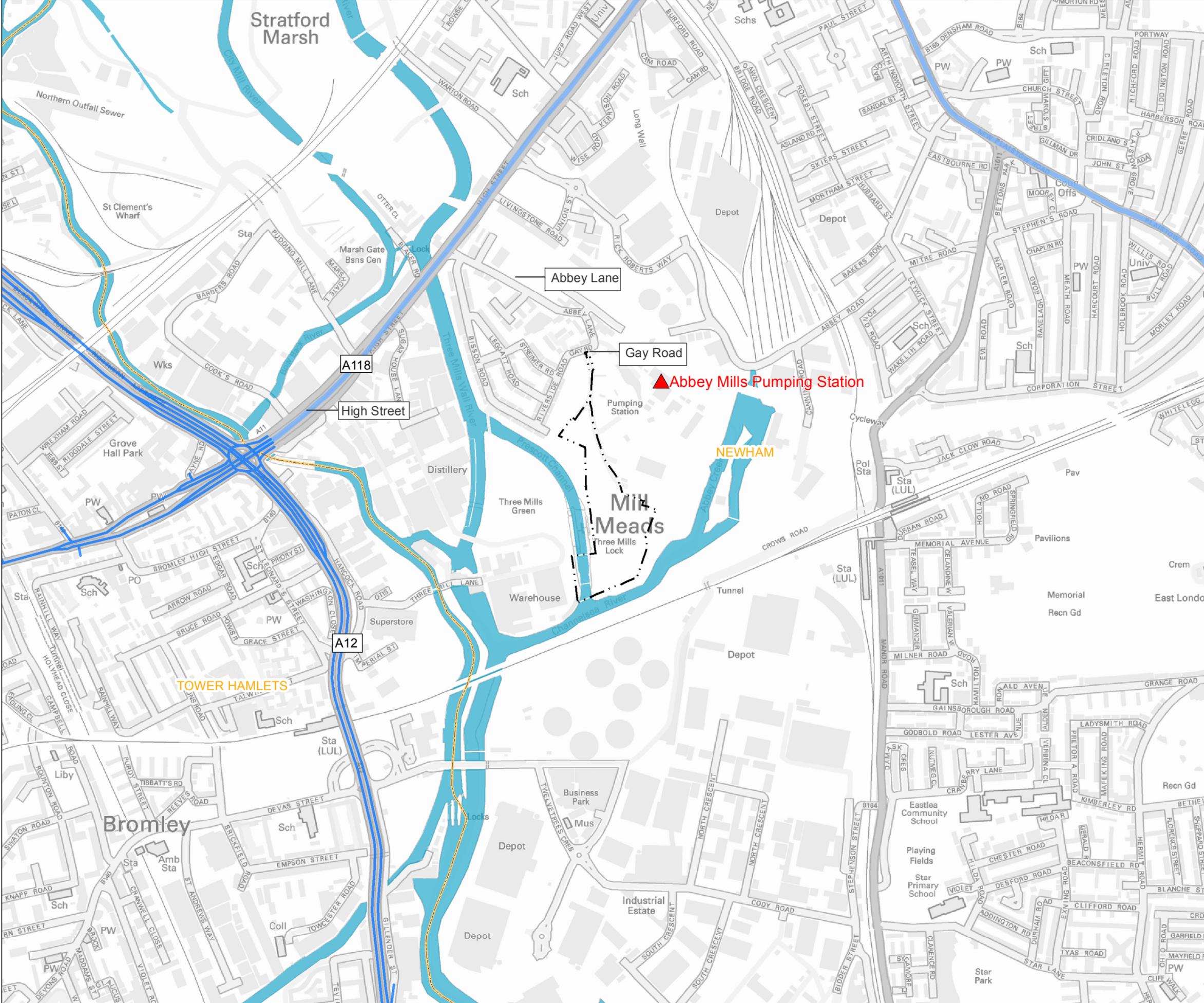


Transport assessment figures

This page is intentionally blank



- Key**
- Pumping station
 - TFL road network
 - Strategic road network
 - Limits of Land to be Acquired or Used
 - Local authority boundary



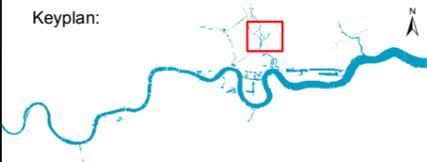
FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

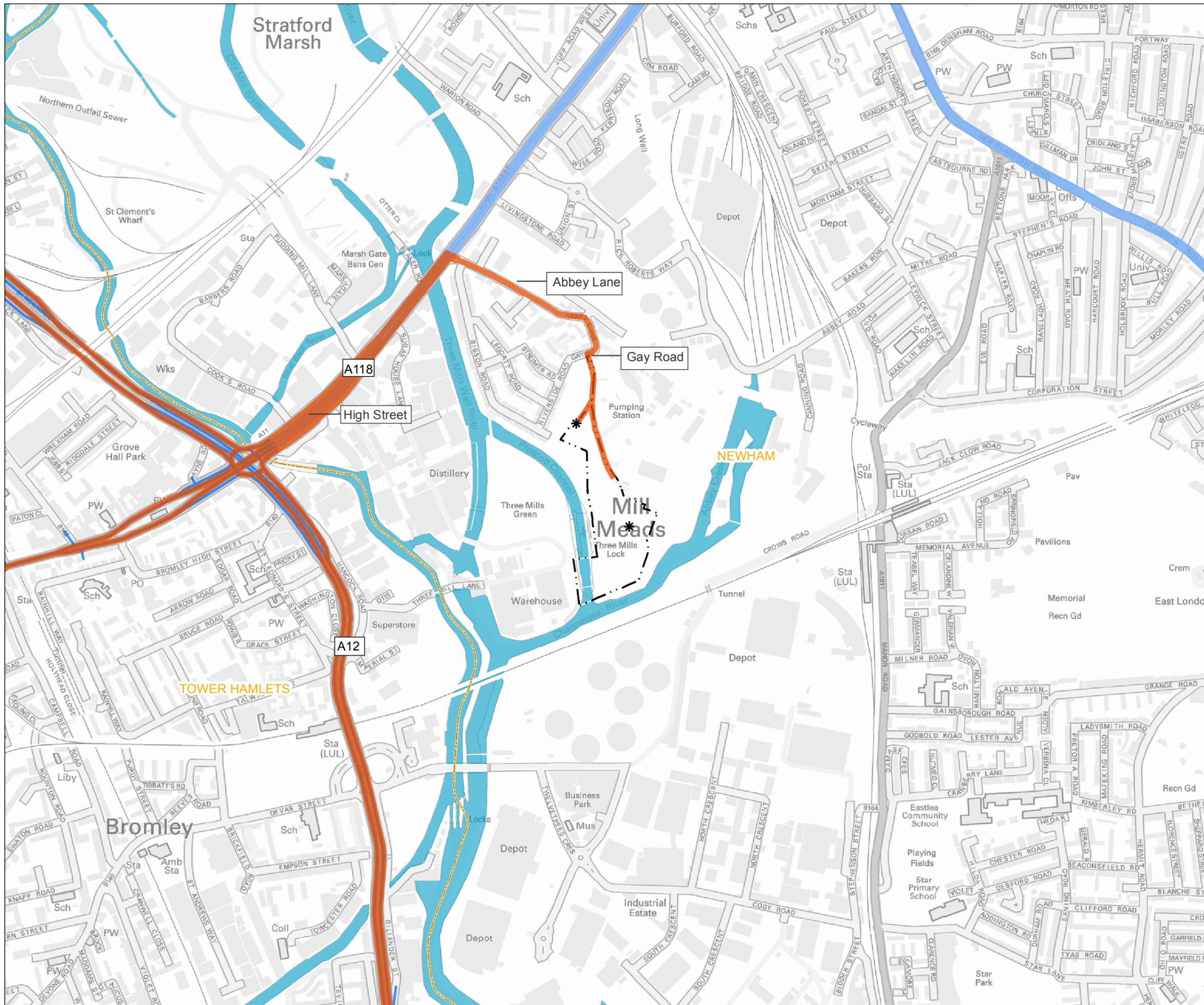
Document Information
Transport Assessment
 Transport - site location plan

Figure 25.2.1
 1PL03-TT-50704
 January 2013





- Key**
- * Site access
 - TFL road network
 - Strategic road network
 - Primary construction route
 - - - Limits of Land to be Acquired or Used
 - Local authority boundary



110 55 0 110 m
Scale 1 : 7,500 at A3

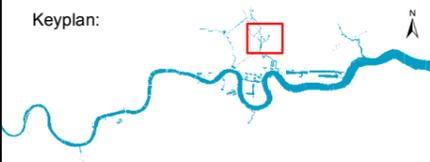
FOR INFORMATION

Location
Abbey Mills Pumping Station
London Borough of Newham

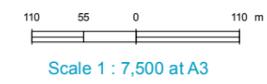
Document Information
Transport Assessment
Transport - construction traffic routes

Figure 25.2.2
1PL03-TT-50696
January 2013





- Key**
- National rail stations with cycle parking
 - Underground stations with cycle parking
 - Barclays cycle hire docking stations
 - Cycle superhighway (open)
 - London cycle routes
 - London strategic walk network
 - Pedestrian routes
- National cycle network**
- Route Type**
- Open Traffic Free
 - Open on-road
- Limits of Land to be Acquired or Used
 - Local authority boundary

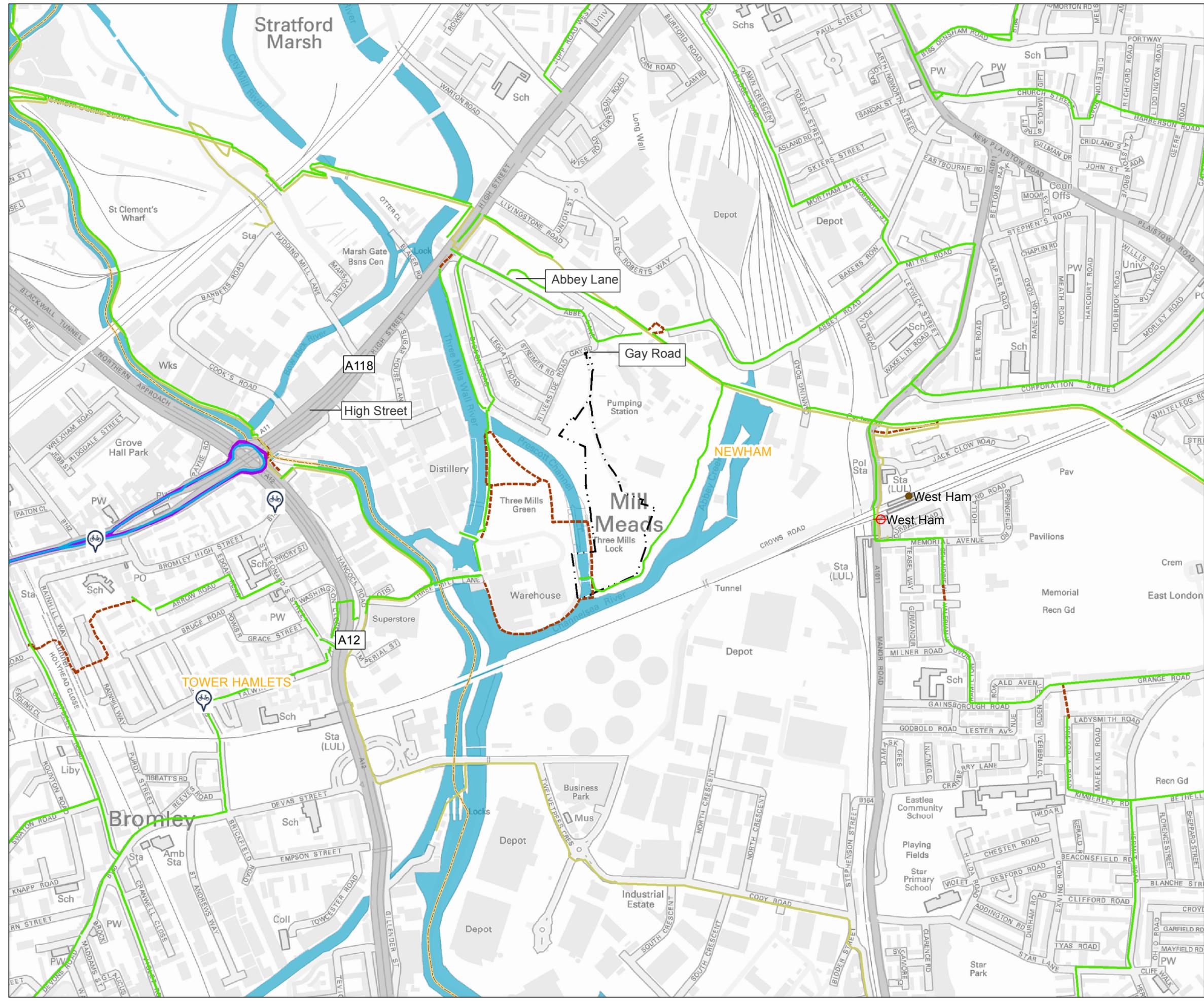


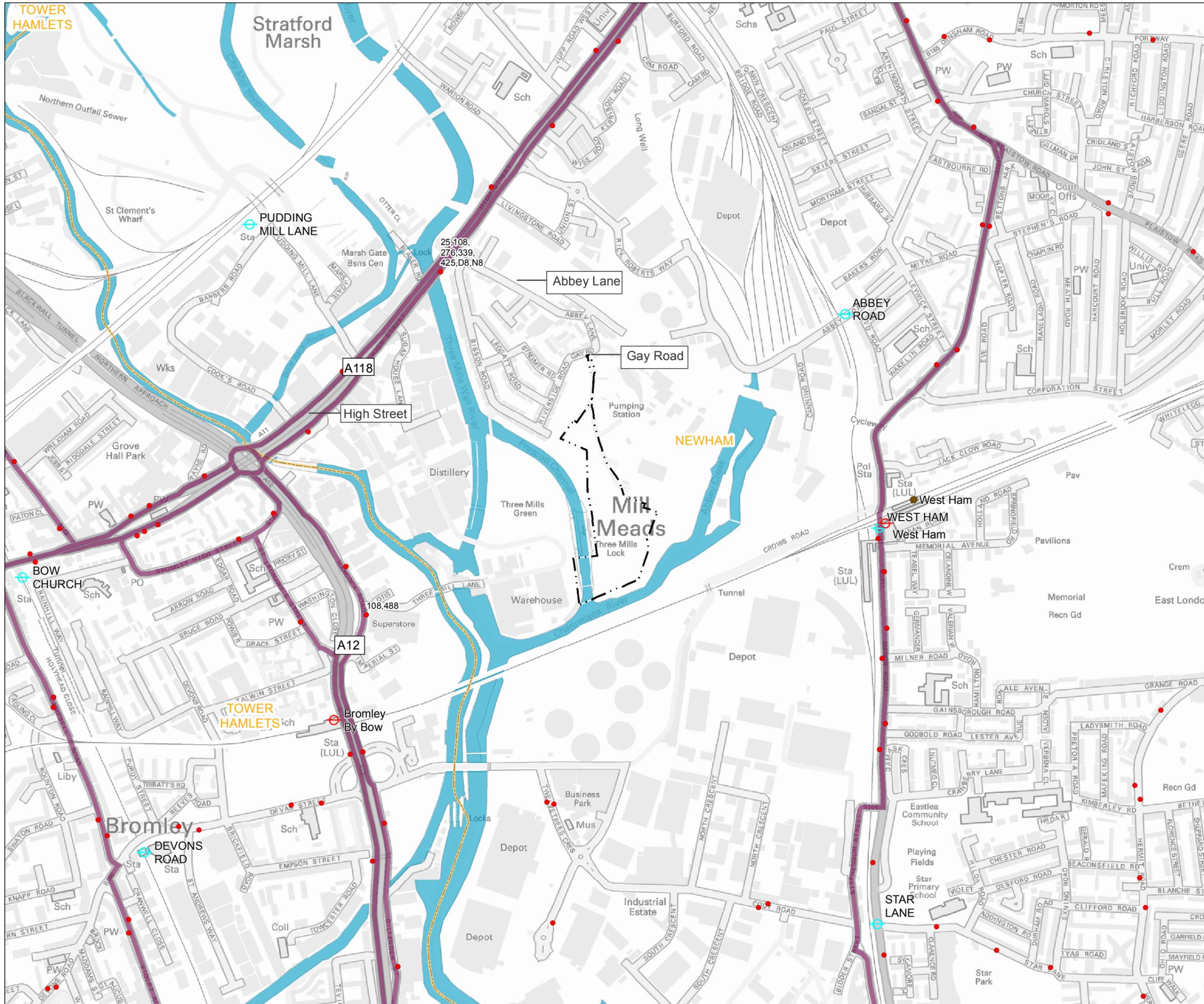
FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

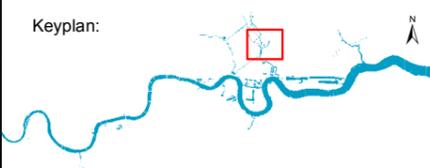
Document Information
Transport Assessment
 Transport - pedestrian and cycle network

Figure 25.4.1
 1PL03-TT-50712
 January 2013

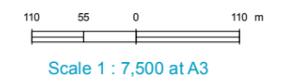




Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



- Key**
- TFL bus stops
 - London national rail stations
 - London underground stations
 - Existing / future docklands light railway stations
 - Pier locations
 - TfL bus routes
 - Limits of Land to be Acquired or Used
 - Local authority boundary



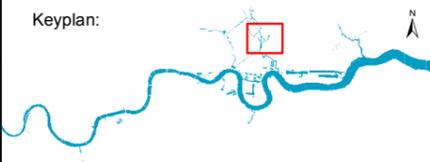
FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

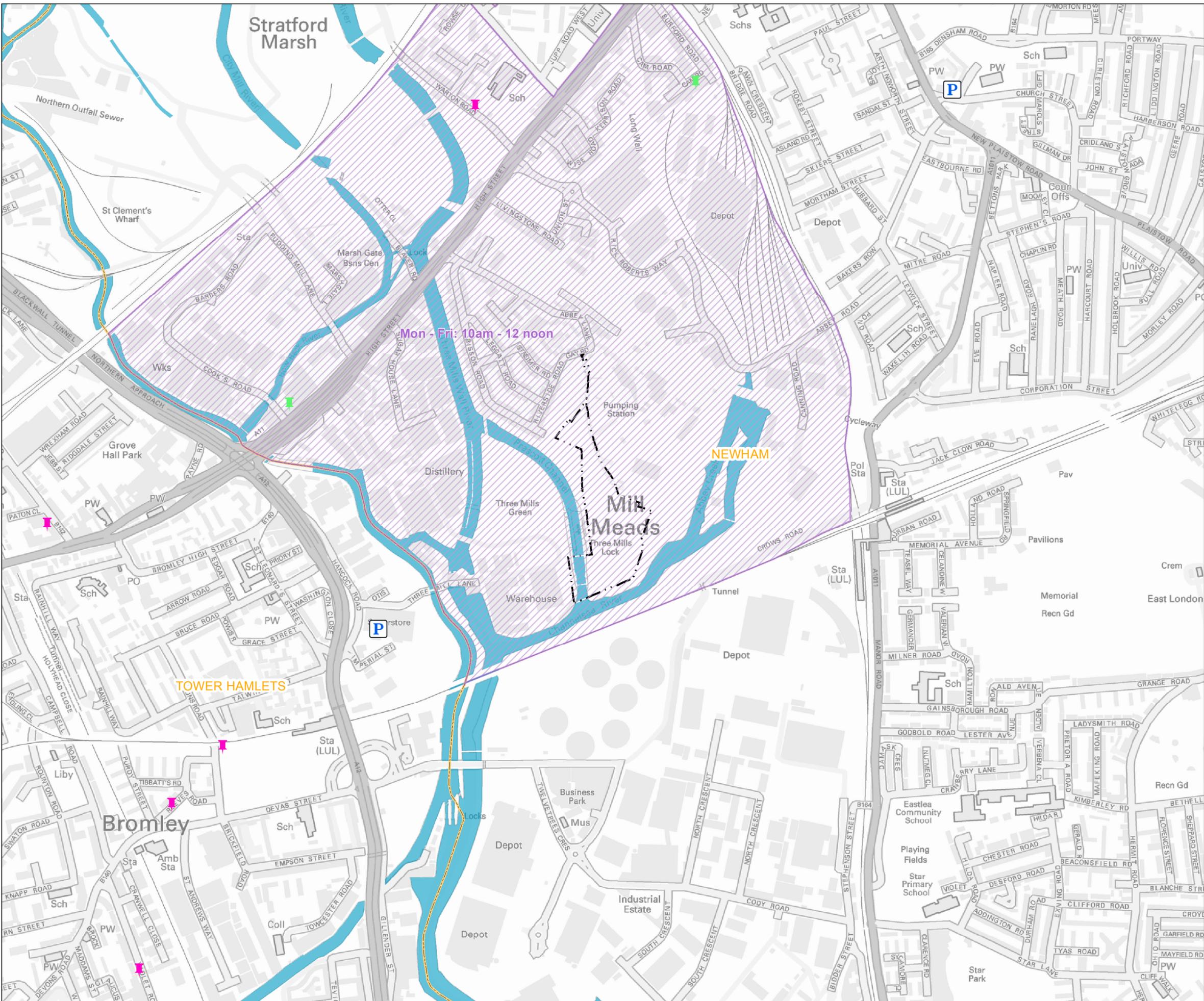
Document Information
Transport Assessment
 Transport - public transport

Figure 25.4.2
 1PL03-TT-50720
 January 2013





- Key**
- Private car parking
 - Zip Car
 - City Car
 - Controlled Parking Zones and Hours of Operation
 - Limits of Land to be Acquired or Used
 - Local authority boundary



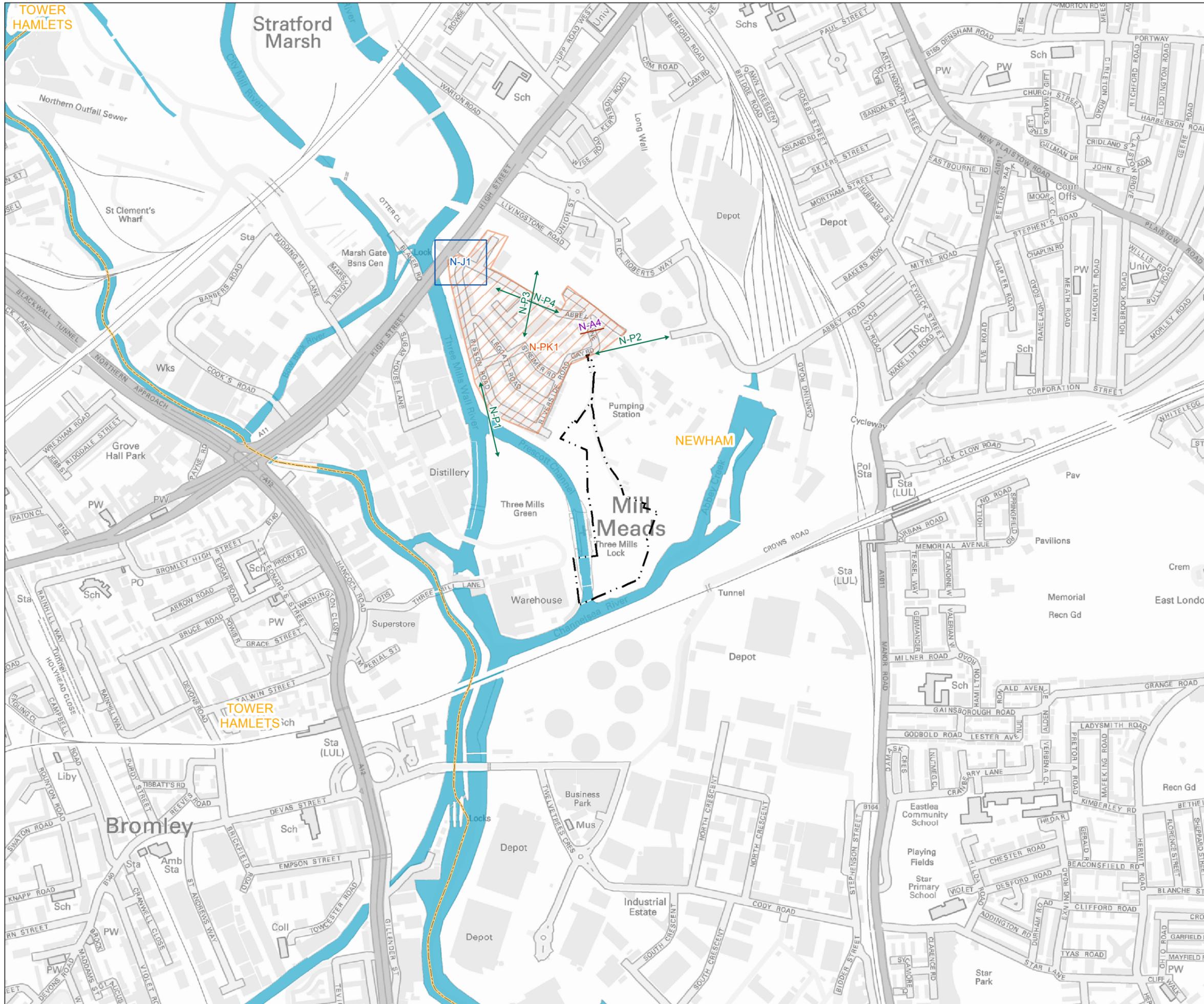
FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

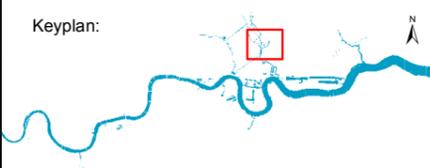
Document Information
Transport Assessment
 Transport - parking

Figure 25.4.3
 1PL03-TT-50728
 January 2013

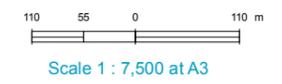




Mapping reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and Database right 2012. All rights reserved. Ordnance Survey licence number 100019345



- Key**
- Automatic traffic count surveys
 - Pedestrian and cycle surveys
 - Parking surveys
 - Junction surveys
 - Limits of Land to be Acquired or Used
 - Local authority boundary



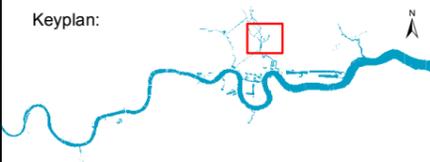
FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

Document Information
Transport Assessment
 Transport - survey locations

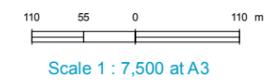
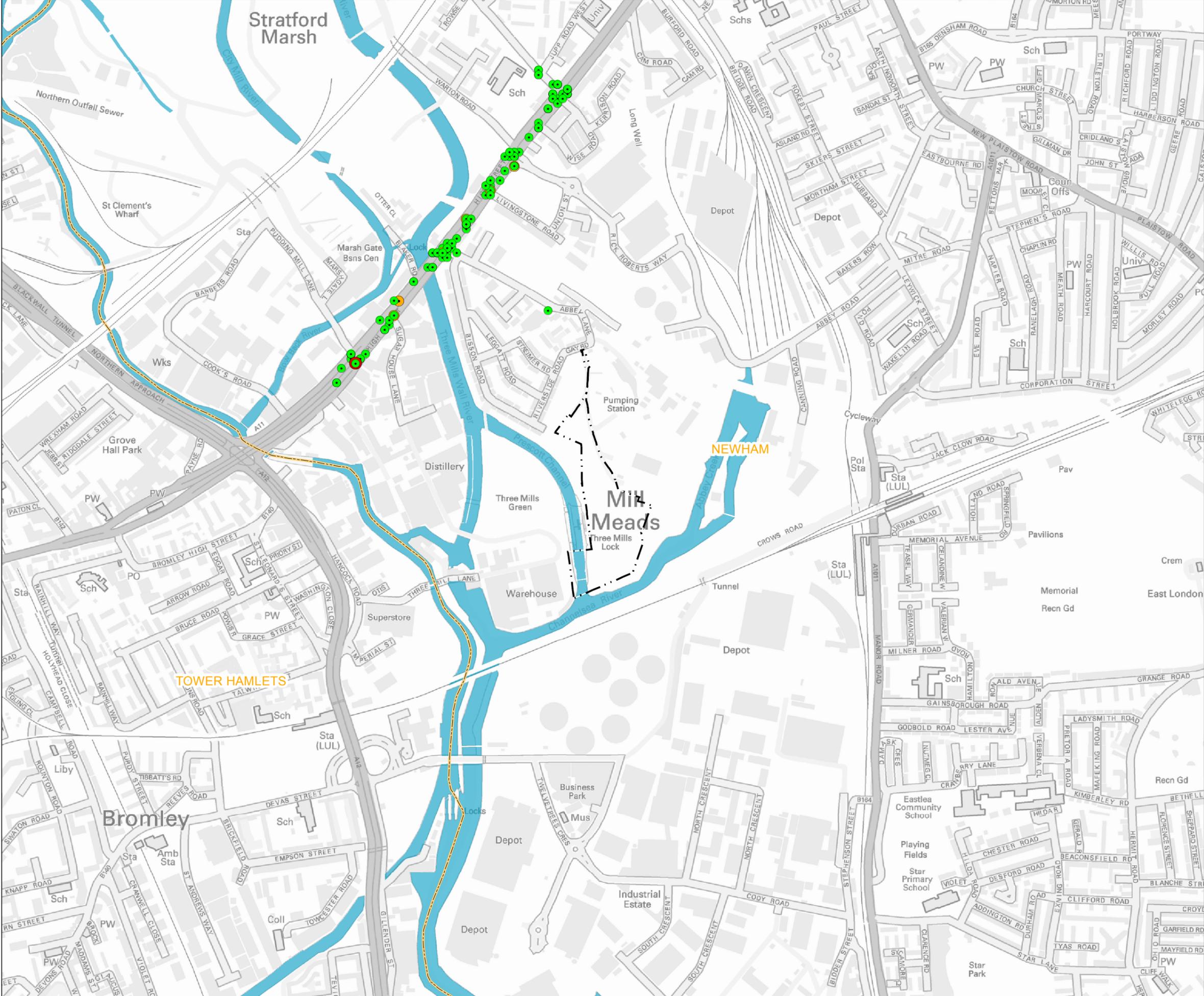
Figure 25.4.4
 1PL03-TT-50736
 January 2013





Key

- Slight
- Serious
- Fatal
- Limits of Land to be Acquired or Used
- ▭ Local authority boundary



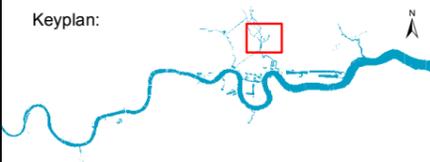
FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

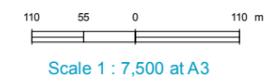
Document Information
Transport Assessment
 Transport - accident locations

Figure 25.4.5
 1PL03-TT-50760
 January 2013





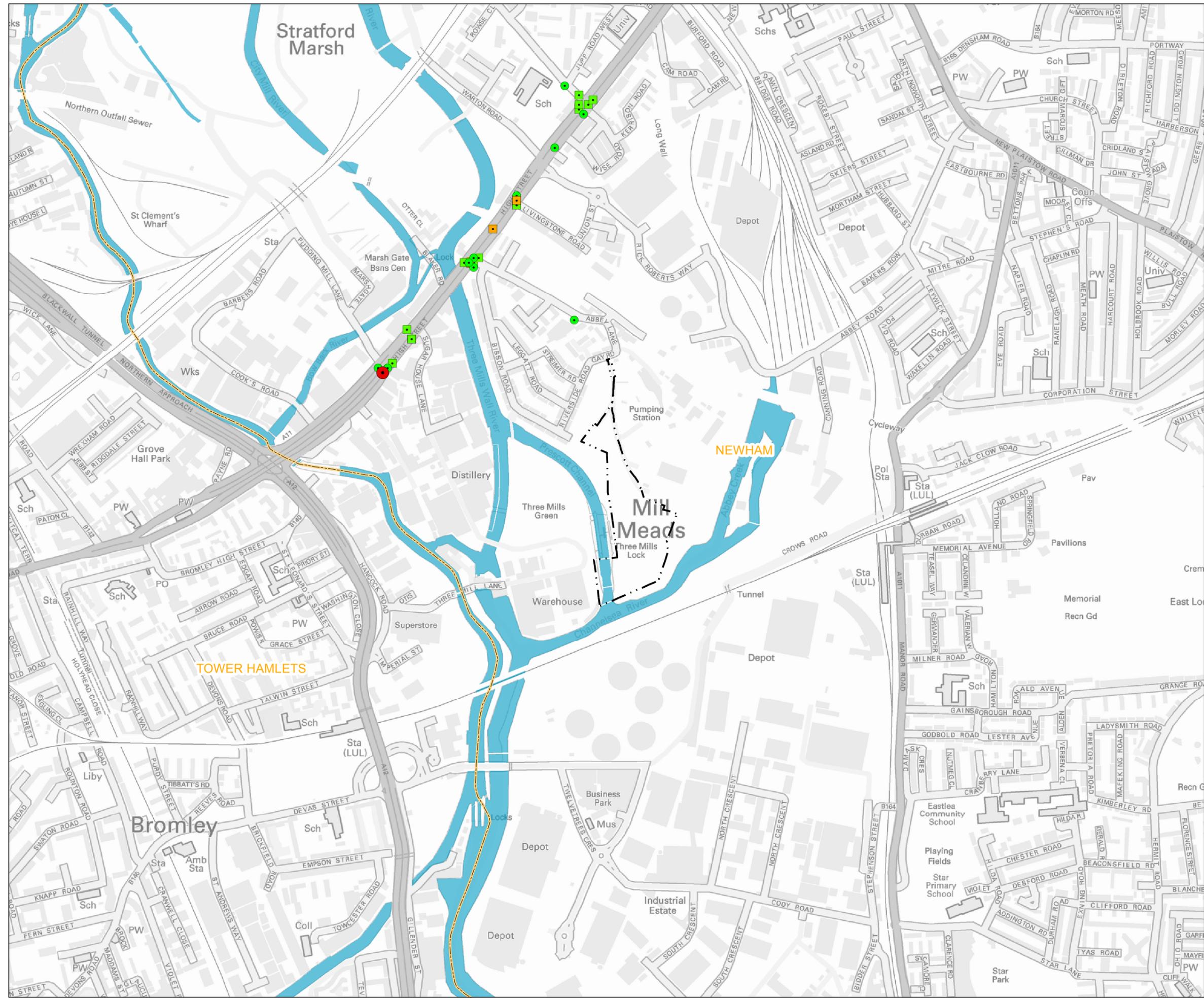
- Key**
- Accidents**
(Severity, Mode of travel)
- Slight, Pedestrian
 - Slight, Pedal Cycle
 - Serious, Pedestrian
 - Serious, Pedal Cycle
 - Fatal, Pedestrian
- Limits of Land to be Acquired or Used
 Local authority boundary

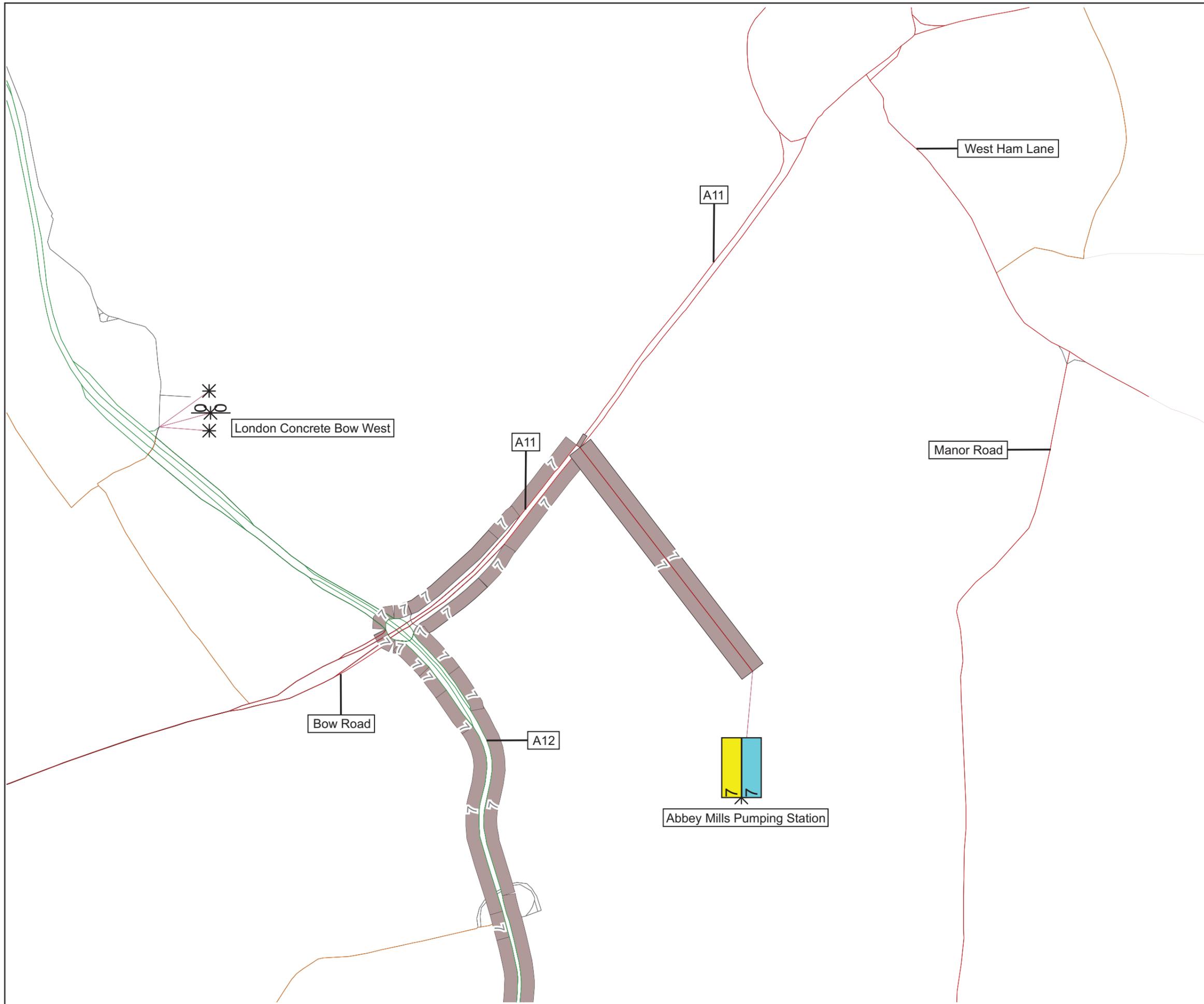


FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

Document Information
Transport Assessment
 Transport - pedestrian and cyclist accidents by severity
 Figure 25.4.6
 1PL03-TT-50843
 January 2013





Hourly construction lorries arrivals and departures

- Arrivals
- Departures

Hourly construction lorries movements

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10
- 10 - 11
- 11 - 12
- 12 - 13
- 13 - 14
- 14 - 15
- > 15

Note: Construction vehicle flows include all Thames Tideway Tunnel sites on this network during this period.

FOR INFORMATION

Location
Abbey Mills Pumping Station
 London Borough of Newham

Document Information
Transport Assessment
 Hourly Construction Lorry Movements -
 Site Year 1 of Construction

Figure 25.5.1
 1PL03-TT-50879



This page is intentionally left blank

This page is intentionally blank

Copyright notice

Copyright © Thames Water Utilities Limited January 2013.
All rights reserved.

Any plans, drawings, designs and materials (materials) submitted by Thames Water Utilities Limited (Thames Water) as part of this application for Development Consent to the Planning Inspectorate are protected by copyright. You may only use this material (including making copies of it) in order to (a) inspect those plans, drawings, designs and materials at a more convenient time or place; or (b) to facilitate the exercise of a right to participate in the pre-examination or examination stages of the application which is available under the Planning Act 2008 and related regulations. Use for any other purpose is prohibited and further copies must not be made without the prior written consent of Thames Water.

Thames Water Utilities Limited

Clearwater Court, Vastern Road, Reading RG1 8DB

The Thames Water logo and Thames Tideway Tunnel logo are © Thames Water Utilities Limited. All rights reserved.

DCO-DT-000-ZZZZZ-071022

